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The Motor

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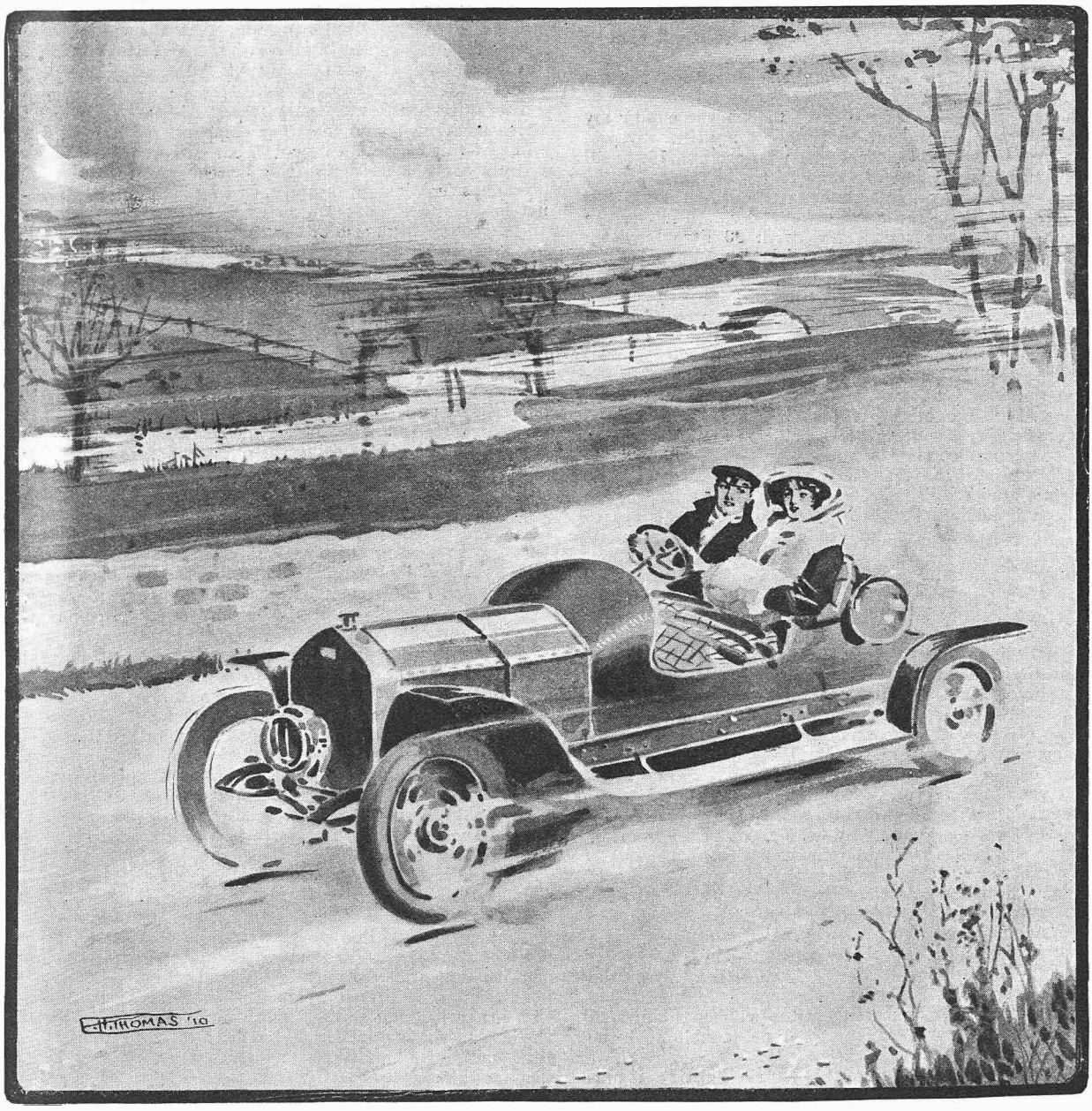


THE IMPERFECT TENSE
DRIVER OF SPEEDY CAR: "That's a fine view!"
FAIR FIRST-TIME PASSENGER: "It was!"

ELECTRIC LIGHTING OF CARS.

Interesting Comparisons with Other Systems.

By CYCLOMOT.

THE question of the merits and demerits of electric lighting of cars is one on which the motoring public is yet far from satisfied, if one may judge from the volume of correspondence that has always arisen in response to any references to the subject in this journal, and that has again flowed in as a result of the recent reference to it by my colleague "Automan."

In my own columns, I have had many references to the matter, for I have been experimenting with electric lighting on my cars since either the autumn of 1905 or the early part of 1906—I am not certain which, although, as I disposed, in the late spring of 1906, of the particular car on which my first experiments were made, there is no question about the period.

Those experiments are not concluded, and probably never will be, for improvements are always possible and are always being made. But, upon the main question as to whether electric lighting is an advance on some other forms of illumination there is not the slightest doubt in my mind.

The conclusion that I have come to is borne out by my actual practice, for it happens that, for my sins, my present stock of car lamps totals to no fewer than 16, of all systems, and my car will, invariably, be found to be equipped in this way:—In summer:—Head lamps and side lamps: 8-volt electric; and tail lamp 4-volt electric. In winter:—Head lamps: acetylene with 30 litre burners; side lamps: 8-volt electric; and tail lamp: 4-volt electric. Interior lighting (three lamps), dashboard and inspection lamps all 4-volt electric.

Thus, oil lamps are merely kept ready as a stand-by, in case of battery failure. The acetylene headlamps are, in my opinion, desirable in the winter when, frequently, all the available light possible is required for penetrating the heavy gloom and lighting the way over soddened roads that are indistinguishable for their blackness from the denseness under the trees at the sides. In the summer, when extreme darkness is rare, a pair of 8-volt electric lamps has proved to be perfectly satisfactory.

The preference which is thus outlined in my own practice has been influenced by the factor that seems always to dominate many others, namely: convenience.

In the first place, great cleanliness pervades the system. Oil lamps are not the sweetest things in the world to deal with. They require a large amount of internal cleaning, wick trimming and filling. They are not easy to light in any sort of a breeze, and one has to stop and leave the car in order to light or extinguish them. And, after lighting, one must wait a minute or two to allow the lamp body to become warm, in order that the condensed moisture may be wiped off the front and that the height of the wick may be so regulated that the maximum light with an absence of smoking may be obtained. And, if the lamp be required for making an inspection, it may not be set to any great degree out of the vertical.

Acetylene lamps entail rather less cleaning than oil lamps and, on the whole, may be regarded as giving less trouble, provided the system be well designed. But a faulty acetylene gas system is the worst of all modes of illumination. In my opinion, the generator should be entirely separated from the lamps, piping being fixed to the chassis in such a way that it is concealed, and ending in a pair of inch nipples near the generator—which is usually secured to the running footboard—and a like pair at the point nearest the lamps, connections being made to lamps and generator by short lengths of rubber tubing. A well-made generator entails very little trouble if it be properly looked after.

But, for general convenience, electric lighting is unapproached. It is necessary to plan the wiring very carefully when the installation is made, so that first the wire may be protected from injury by heat, oil or abrasion and, second, the wire may not be unsightly or be in the way when work has to be done on the mechanism. In order to overcome all troubles, I laid conduits of ¾ in. fibre tube along the sides of the framework under the bonnet and body, and, as a result of experience, my next car would be provided with two or more sizes of conduit, the main conduits being about 1 in. or 1½ in. diameter in order that the wires may be passed through more easily. I have not been able to devise or discover any better conduit than fibre tubing, held in place by simple clips made of sheet brass. It does not provide for all circumstances, as would, for instance, a conduit that could readily be opened along its whole length for the rapid insertion or removal of a wire, but it is the best compromise that I know of.

The wires can be drawn through the conduits, and can proceed from batteries to switchboard and thence to the various lamps. I brought every wire to the switchboard and used the double wire circuit throughout, although I am prepared to recognize the justice of Mr. Wm. Peto's (Messrs. Peto and Radford) claim that the single wire circuit is quite as good in all respects and better in some. But, being equipped with double pole bulbs, there has been no inducement for me to change.

The switchboard was made to my design by the firm above mentioned, and was very compact, for it gave me an eight-volt bar and a four-volt bar, from each of which I could connect up across the switchboard with any of my lamps (not instantaneously, but by changing the connections), and it gave me switches to control eight circuits, yet the total size of the switchboard was only 5 in. by 4 in. by ¾ in. Two of these switches were master switches, one closing the circuit as far as the switch that controlled the dashboard lamp, whilst each of the three interior lamps had its own switch as well as the master switch in the circuit. This switchboard was placed in the space under the cushion of the driver's seat, and, by raising oneself up, lifting the edge of the cushion, and touching the switch handles with the finger, the current could be switched on to the different circuits as required: a tiny knob on certain handles indicating the side, tail, interior and dash lamps, these being the ones that were invariably required to be switched on simultaneously.

For my next car I have devised a rotary switch, which would be about 3 in. diameter in the body and about ½ in. deep, and which would have a central knob and a pointer to point to certain combinations. This would go on the dashboard, and, I think, should be the most compact switchboard I have come across, controlling, as it would, a number of circuits and allowing any desired combination of lamps to be lighted.

The matter of convenience has already been referred to, but it must be experienced to be appreciated. When darkness falls, there is always a certain hesitancy about stopping to light up—deferring the moment that shall bid adieu to parting day and that shall irrevocably bring down night upon one. But, with electric lamps, a touch of the switches and the thing is done, without any stopping and restarting. And there are occasions when a little light becomes desirable in a gloomy spot, whilst a vehicle showing lights is always accorded a clearer road than the unlighted vehicle.

With interior cleaning and polishing abolished, with sound wiring arranged as described, and with a good and well-protected switchboard, one only has the accumulators to look after, and, unless they can be charged in their place on the car, I strongly advise the use of accumulators of a moderate size. I once had a big accumulator for my head and side lights: it weighed 60 lb., and its manipulation for recharging entailed more work than the whole of the car mechanism. I would not have an accumulator, that had to be carried to and from a charging station, heavier than 15 lb. If they are too heavy to be handled comfortably, they are going to be neglected.

As to voltage. I found four volts ample for the tail lamp and all interior lighting, using metal filament bulbs, of course. For side lights, I preferred eight volts, because

ELECTRIC LIGHTING OF CARS.—Contd.

one so often ran with those alone, not using head lights. As to head lights, I would prefer 12 volts, but, to get that voltage, the filament would need to be so large that part of it would be out of the focal centre of the reflector, and, so, would be useless. The radiant in all projecting systems should, as nearly as possible, be a mere point of light—as strong as is required, but still near the ideal point. And an eight-volt filament seems at present to be about the practical limit, although higher voltages from smaller radiants will eventually be made. With my head lamps alight I invariably switch off my side lamps, having long ago formed the impression that one sees better with head lamps alone, and only when extra light was needed would I ever switch on the four lights, switching off the two extra ones again when not required. When the car was left standing in the road, only the tail lamp and one side lamp would be left alight. A switchboard with independent switches permits one to do just what one wishes in this way.

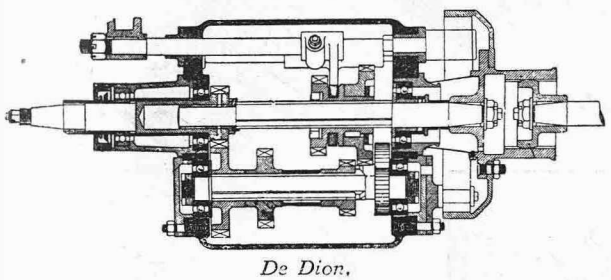
Now, as to bulbs. It may hardly be believed that during the whole of the time that I have used electric lamps I have never had a bulb or a filament break, except by unfair usage. And the total of four years' breakages has been two bulbs: one when the rear lamp, being insecurely fastened, fell off the bracket on to the road and one when a bulb slipped out of my fingers. But, never to have a bulb or filament go, no matter how rough the road, is not a little remarkable. I always carry a small case of spare bulbs, and it has never been called upon to provide a replacement. This immunity from mishap has been contributed to by the fact that the lamp holders on my head and side lamps are carried on rubber diaphragms held in the lamp holder sockets—a system introduced by Messrs. J. and R. Oldfield, of Birmingham. The tail lamp, however, has not this device, although the lamp holder socket, in this case, is carried on springs, but I doubt if these are able to serve any useful purpose. The interior lamps are, however, rigidly attached to the body and are in no wise insulated from vibration. Thus, all practical modes of supporting the bulbs are represented in the nine electric lamps on my car, and the results are alike—complete immunity from breakage.

So the cost of running has simply been the cost of recharging the accumulators, and that, if one has electric power, is very small.

I am perfectly satisfied with electric lighting, which, I am sure, will come into general vogue, and I am keenly looking forward to the time when the batteries will be kept charged by a dynamo run off the engine, a system which I have carefully studied, but of which I have had no personal experience, and a discussion upon which I prefer to leave until I have had the necessary experience.

Speed Controls.

With reference to the description of the McComb speed control, which appeared in our last issue, Mr. Roper, inventor of the Roper speed-limit control, brings to our notice his device, which a member of our staff remembers testing in the early part of last year with successful results. The writer of the description in our last issue could not have been aware of the Roper control, which, we are assured, continues to justify all that is claimed for it. On the occasion referred to above a representative of The Motor personally drove a 30-40 h.p. car down Highgate Hill, and it was quite an impossibility to make the car exceed the speed limit set upon the dial. We are informed that since our trial of the control the device has been tested by works managers of the largest English, French, and American motor manufacturers and by Government officials. These tests have been spread over one year, and in no one instance has the mechanism been known to fail.



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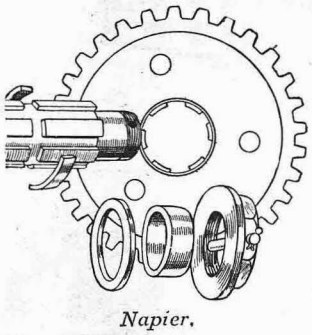

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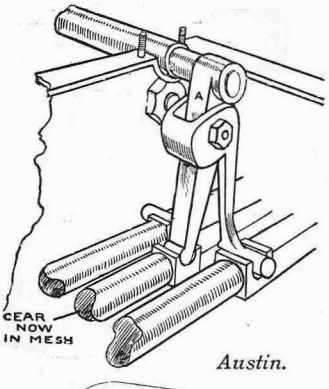

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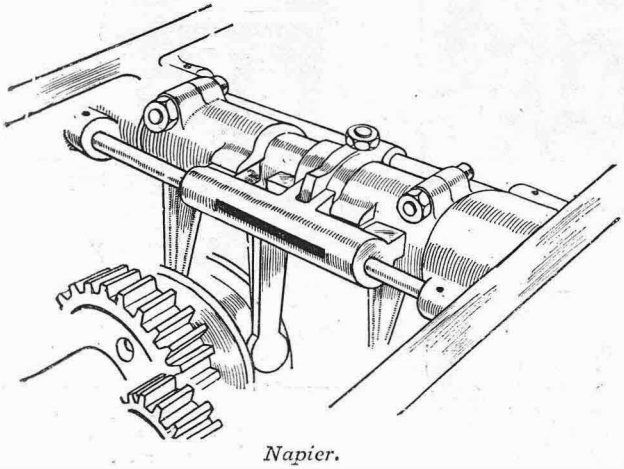

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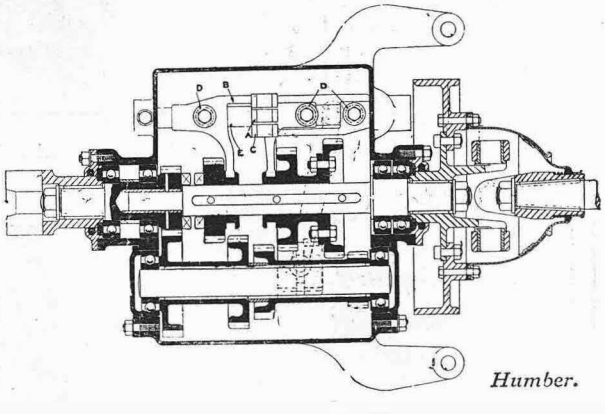
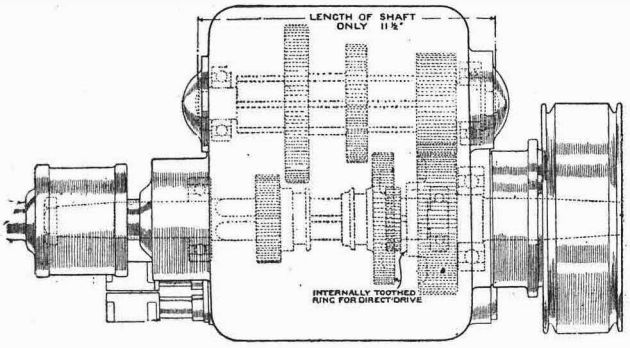


Humber.

COMPARISONS OF STYLES AND METHODS. No. 11.—GEARBOXES.

Note the series is continued on the next page. A special article on gearbox features, with further illustrations and references to these illustrations, will appear in the next issue.



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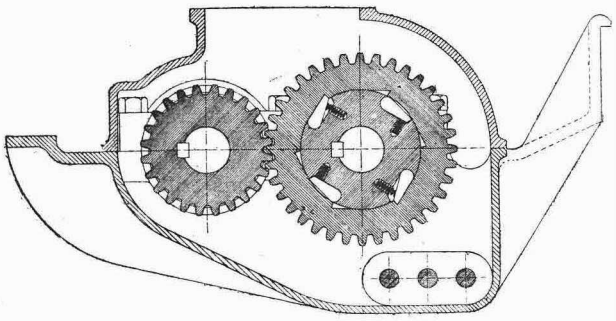

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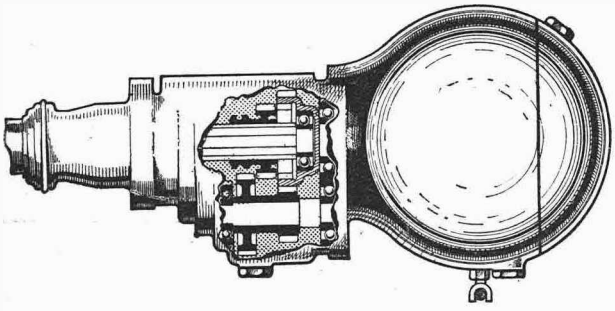

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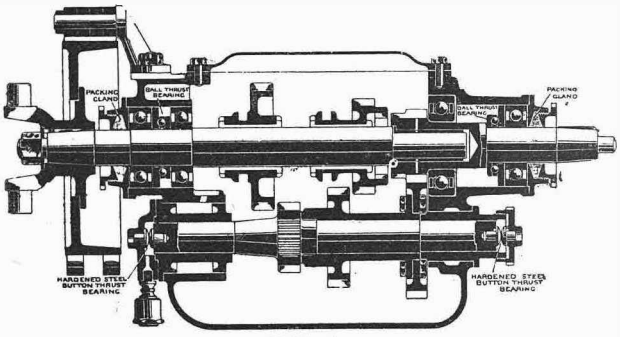

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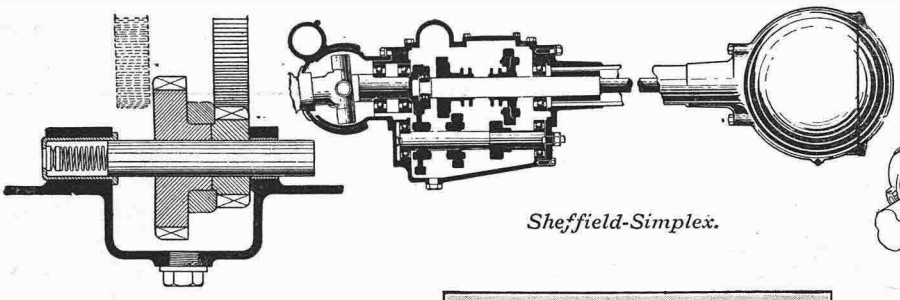

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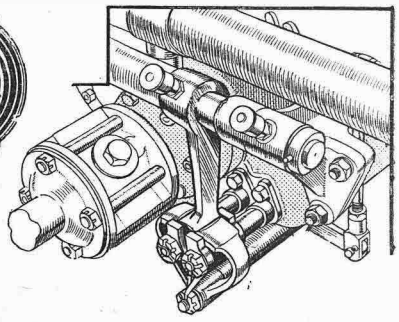
Star de Luxe.



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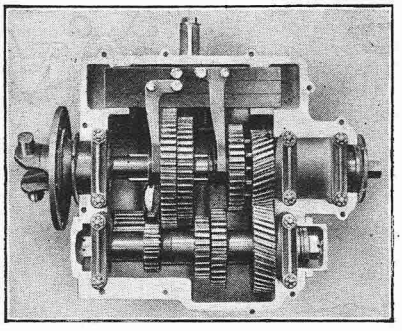
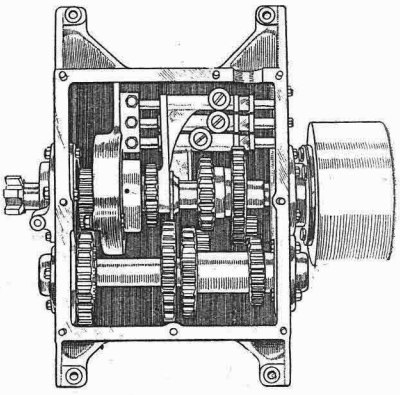


Arrol-Johnston.



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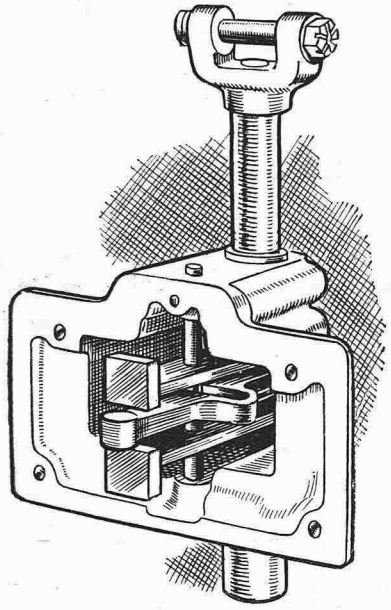
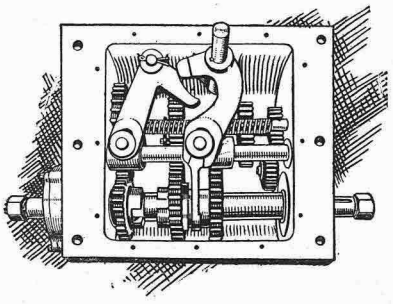


Singer.



Phoenix.

Comparisons of Styles and Methods :

No. 11.—Gearboxes.

A special article with reference to these illustrations and those on the preceding page will appear next week.

AT RANDOM

BY AUTOMAN

Mudguards—A Much-needed Reform.

GREAT as has been the improvement in the design of "wings" and mudguards during the past year or two, I still find fault with certain details of the type fitted to very many cars even now just finding their way on to the roads.

The farcical old "splayed" port wings have gone to their last rest, and the modern front guard, with deep flange all round and filled in to the frame on the inside, is quite good in appearance and effective in use, the mud-flange especially serving the doubly-desirable purpose of preventing a good deal of mud from the top of the wheel being thrown outwards, and also giving the car a clean appearance even when a considerable quantity of mud is adhering to its under side. But the average rear guards one sees are a very different proposition—no flanges, no inward extension to protect the panels, but, worst of all, straight, or even turned up at the back. It is this last feature which I particularly condemn, as on a muddy road a stream is thrown out to the rear, not to mention the smothering of the back panels.

If one is passed by another car, with this kind of back guards, on a muddy road, no wonder one's windscreen is liberally splashed, and no wonder a rear passenger gets "one in the eye" occasionally—which is especially pleasing when that rear passenger happens to be a lady. Moreover, the rearwardly-projected stream of mud increases its range with the speed of the car, and causes much unnecessary inconvenience to foot-passengers where a pathway adjoins the road.

I maintain that there is no earthly reason why the rear guards on every car should not be of the "half-round" variety, following the curve of the wheel, and I go so far as to say that I consider the straight or up-turned variety such an unnecessary nuisance to other road users that its use might very well be prohibited altogether.

About the only possible disadvantage I can see attaching to the use of these half-round wings is that sometimes it is a little more difficult to manipulate tyre levers under them. This may be obviated by making the guards detachable, which is easily done, both in the case of front and rear ones, rendering the engine more accessible for such operations as valve-grinding in the case of the former, as well as enabling the wheels, tyres, and brake gear to be readily exposed to the utmost in the case of the latter. All wings should have the outer edges flanged, and their width should in all cases be ample, to prevent any mud or grit being thrown into the car itself—a quality in which many sadly fail, as may be observed on looking over any assemblage of cars on a muddy day.

By the way, the mud-slinging propensities of the flat type of rear guard may be considerably diminished by attaching flaps of enamelled leather so as to depend, say, 9 in. or a foot—because it is from the bottom of the wheel, and not the top, that the mud comes—and having a bit of strip iron sewn into their lower ends to keep them more or less vertical when the car is travelling at speed.

American and British Manufacturing Methods.

Touching my recent reference to a run I had enjoyed on an American petrol car of low price and high capabilities, a correspondent, who writes as a mechanic with experience of working in motor factories both here and in the States, expresses himself somewhat forcibly on the subject of cheap production.

He says that we shall never make cheap cars in this country till our manufacturers learn to secure the services of foremen, for supervising the constructional details, who have a practical acquaintance with the ailments from which cars suffer, as well as of the correct methods of putting them together. "Mechanic" says that American firms pay higher wages, yet sell cheaper, because their motto is "How quick," not "How well."

He instances how much time, which has to be paid for, is often wasted over producing a fine finish on parts which are out of sight, or metal-work that is subsequently painted, and seems to hold the opinion that the British workman is made to be too particular over the quality of his work, and urges that much unnecessary labour is expended in our factories over accuracy of "fit" and exact adherence to drawings.

I fear that "Mechanic" has not had much luck in meeting shop foremen after his own heart, as he seems to be up against the genus altogether, and is much puzzled to know on what principle some firms select those whose chief capabilities consist in "bullying the men and talking nonsense."

Tush! I weep for you, "Mechanic," I deeply sympathize. So, no doubt, do many manufacturers, but the probability is there are not enough model foremen to go round. Is it not that too few men have the necessary infinite tactfulness to handle those placed under them to the best advantage, and mutual satisfaction of both parties? And that is only one of the qualities useful to a foreman, who must, of course, also excel in knowledge of the methods to be employed in turning out every detail of the work for which he is responsible, and also of the conditions under which the things he makes are destined to be operated in the hands of the eventual user. He is at all times between the devil and the deep sea, the one being his works manager and the other his men; I do not know which cap fits which best.

I can assure "Mechanic," however, that there are some first-rate foremen about, but how widely-distributed these treasures are is a matter of mere surmise, and I only trust he may be regarded as having been peculiarly unfortunate in the experiences which have led him to form so unfavourable an opinion of a class whose lot is possibly in great measure "not a happy one."

The Question of "Fit."

My correspondent's other point, which amounts to saying our manufacturers are too careful of details, presents quite a new aspect of comparison. "Mechanic" says a snug fit is not necessary, and that it is a waste of time, for instance, making big-ends true to a five-thousandth part of an inch, as he "has found out they do not need to be correct" to that extent of precision.

Now, my own experience has been that, in most kinds of machinery, the greater the care exercised over the manufacture of its minutest details, the greater the satisfaction to subsequent users, and one of the thoughts which ran through my mind in connection with the very car I was describing was, how much better would this car run if it were finished and tuned with the same care which English manufacturers use?

It must surely be the case that cars which are assembled in thousands on the American system have not so much attention paid to the finish of the working parts and tuning-up of their engines as do many of ours, which are practically finished off individually, and certainly so tested. And as regards appearances, my impression is that in this country the average buyer does take an interest in the

AT RANDOM.—Contd.

finish of a car he is looking at, and largely judges a chassis, or a newly-introduced one at any rate, by the quality of the workmanship apparent.

What would an Olympia Show be like if there were no polished work on view, if only to dazzle the uninitiated? What if the S.M.M.T., in addition to requiring its exhibitors to enter into a bond, insisted on a coat of tar being applied to all exhibits, to discourage excessive expenditure in work which is out of sight as soon as the body is on?

No, Mr. "Mechanic," I don't think, to put it mildly, we have yet attained such a degree of supremacy in the manufacture of motorcars as to be able to do that sort of thing.

Electric Lighting on the Car.

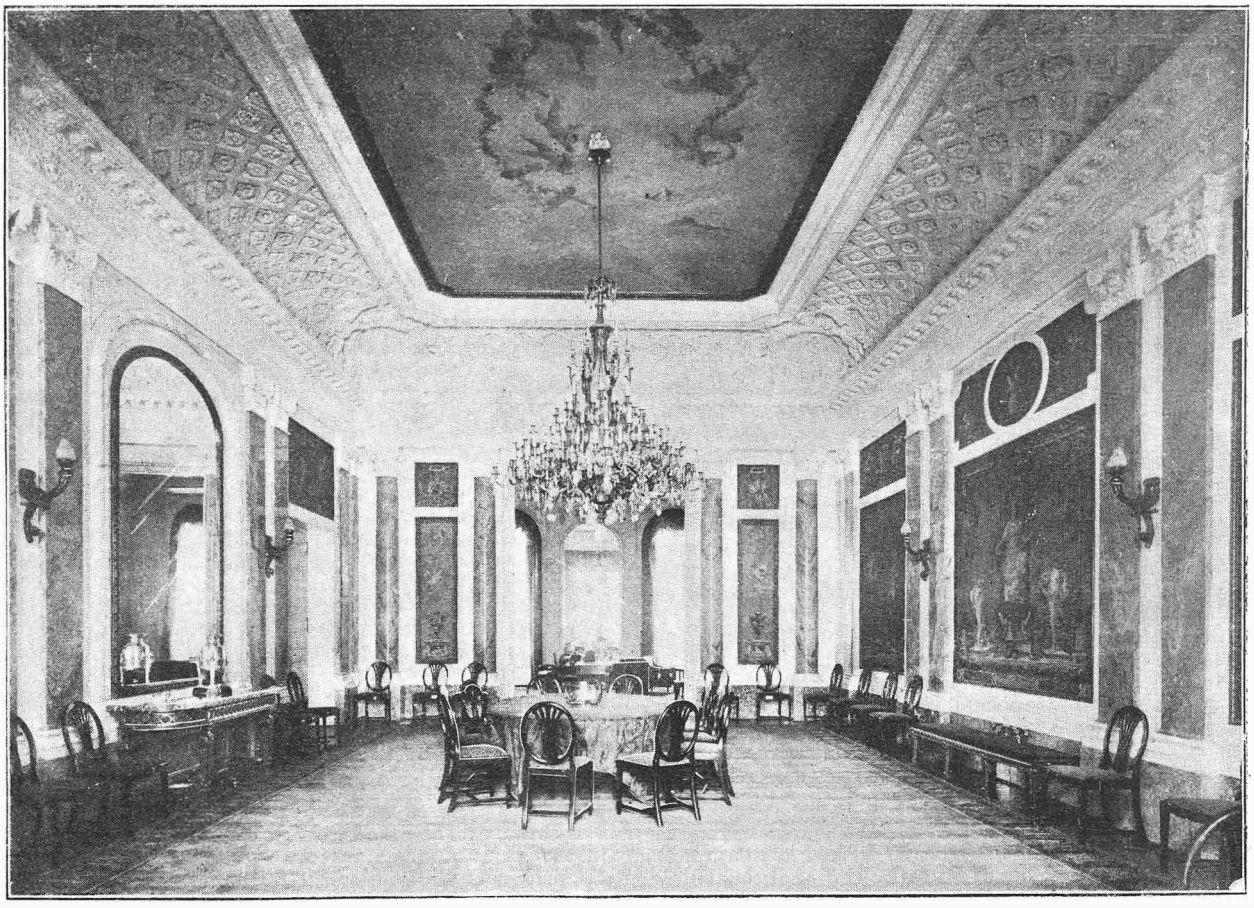
Someone wrote to ask whose lamps I was referring to when lately eulogizing the use of electricity for car lighting, and as I appear to have lost my correspondent's letter I give my reply here. When the R.A.C. published the result of their headlamp trials last year, I waded, despite an inveterate aversion to anything in the nature of figures, through the very complete report of the tests, and came to the conclusion that I would order a set of "C.A.V." side, tail and headlamps, and have since had another. The headlamps have 12-volt bulbs in them, and may be had of 16, 20, or 25 candle-power, with proportionate current consumption: the smaller lamps have 4-volt bulbs, and each set are run from separate accumulators.

I hope to try a P. and R. dynamo on my next car, to dispense with some of the accumulators. AUTOMAN.

Kaiser's Motoring Enthusiasm.

Anniversary Dinner of the German Imperial Motor Club. A Strange Hoax.

On Saturday evening, 15th January, the German Imperial Motor Club celebrated its tenth anniversary by a grand banquet in the Kaisersaal of the "Rheingold" restaurant, Berlin. Prince Henry of Prussia represented his Majesty the Kaiser, and, of course, eulogised that monarch as the guardian angel of German motorism. Probably the automobile would have made good progress without his Majesty's assistance and protection; but there can be no doubt whatever that the Kaiser's sympathy with the new method of locomotion, sympathy incorporated in the splendid automobiles to be found in the Royal garages, has done much to further the progress of motorism. An interesting and curious part in Prince Henry's speech had to do with the non-appearance of Baron de Zuylen at the gathering. The president of the French Motor Club, it transpired, had been held back by a false telegram to the effect that festivities were postponed in consequence of the Prussian Court having to go into mourning. Baron de Zuylen discovered the bogus character of the telegram when it was too late for him to travel. Up to the moment of penning this note, the highly-indignant club is still in Stygian darkness as to the perpetrator of the Zuylen mystification. Baron Sierstorpff is breathing out direful threats against the joker, so that it will go hard with him—if caught! The Duke of Ratibor, president of the Imperial Motor Club, briefly sketched the history of the club from the cradle upwards; and journalists who were denied the pleasure of hearing him read his speech had the privilege of receiving it in pamphlet form for private meditation 48 hours afterwards. Prince George of Bavaria followed the Duke of Ratibor, Minister Delbrück speaking next. Director Hammesfahr, of the Benz works, dwelt upon the mutual reaction of sport and industry.



Banqueting hall in the magnificent club house of the German Imperial Motor Club. An interesting picture in view of the erection of the club house of the R.A.C. now proceeding.

CYCLOMOTS CAUSERIE

Interconnection of Clutch and Side Brakes.

The other day, whilst examining a new foreign-built chassis, which was Anglo-Italian in its engine design and French in the transmission system, I noticed that the clutch withdrawal gear was interconnected with the brake lever, so that the act of applying the side brake withdrew the clutch, and I was interested in the arrangement for a double reason. Not since the winter of 1902 have I driven a car in the design of which such an arrangement was embodied, and I feel that this fact has been to my advantage, because precautionary measures may result in the development of carelessness that might entail graver dangers. Moreover, I have the impression that the method has almost died out, for I find it difficult to recall any popular British-made car that has it, or many French cars with it.

The original idea of connecting the clutch with one of the brake systems was to provide for the carelessness of the driver of those early days, and also for the meddlesomeness of the small boy. The driver who brought his car to a stop and forgot to set his gears in the neutral position would have his carelessness covered by the fact that the clutch was disengaged when the side brake was applied, it being a general practice to apply the side brake—a survival of the habit rendered desirable in the case of horsed vehicles. The mischievous small boy playing with the gear levers could, so long as the clutch was disengaged, work no evil with the gear lever, even if the engine were running (and, in the early days, particularly in the days of tube ignition, it was more customary than it is now to leave the engine running, the greater difficulty of starting outweighing all consideration of the noise involved). But what I never could believe was that the aforesaid small boy would meddle with the gear levers, whilst studiously avoiding playing with the brake lever!

As the petrol engine has developed in flexibility, so its usefulness, when throttled down, as a brake, has grown, and if advantage is to be taken of the power necessary to drive the engine through the gears, it is, obviously, absurd to so couple up the clutch withdrawal gear with the brake connections that one may use either engine or brake for the purpose of checking speed, but not both. On some declivities it is desirable to make use of all the braking power at one's disposal, the alternative being to confine one's wanderings to the highways and byways that can be safely traversed by horsed vehicles. On declivities, where the engine is acting as a brake the whole of the time, and extra checking power is required, the whole of this extra work must, of necessity, be thrown on the foot brake, and there is no chance of relieving it with the side brakes, except at the expense of losing the assistance of the engine.

But, although I should entirely disapprove of interconnecting the clutch and brake, there is more than one advantage to be gained from an arrangement that would hold the clutch out of engagement at the wish of the driver. I would not go so far as to say that the advantage that would result from the consequent impossibility of being knocked over by the car, through the gear not being in neutral, is unimportant, but I consider the clutch cannot play a very important part in connection with safety in starting, because safety from that danger should be assured by some other means, as, for example, interlocking of gear lever and starting handle. It is highly probable that the method of holding the clutch out of engagement would, or could, be operated by hand, and the man who can calmly proceed to start his engine without assuring himself that the gears are in neutral can just as easily, after the engine has been started, release the clutch-disengaging appliance with almost equally evil results should the gear be engaged.

The more important reason for holding the clutch out of engagement occurs in connection with multiple-plate clutches in winter time, when there is a tendency for the oil in the clutch box to thicken and to glue the plates together, thus making it difficult to go into gear and to start. And it would also relieve the disengaging springs between the plates of some of the constant pressure to which they are subjected under the present arrangement.

Mr. Sturmey, referring to the question of safety in starting, recently said that the only real safeguard was to reverse the existing system of construction, and so design the clutch and gear control that the normal position of the clutch would be out of, and not in, engagement, the gear thus always being out of engagement with the engine until the driver took his seat in the car. But this would not be infallible, unless the driver held, by hand or foot pressure, the clutch in engagement the whole time that the car was moving, and I hesitate to think of the condition of the man's nerves and muscles at the end of a long drive under these conditions!

Poisoning from Motor-house Stoves.

A letter from one of our medical readers, published by us a fortnight ago, told how his chauffeur was found unconscious late at night in the motor house, having been overcome by the carbon monoxide fumes from a well-known stove burning a patent fuel. Long ago, as a result of my own experiments with this stove, I laid it down as an absolute essential that the fumes should be led out of the motor house, although I find that the makers aver that the stove may be used, in many situations, without the need for a flue. I have recommended a number of people who, for one reason or another, required a stove that was portable, involved no labour in fixing and was easy to manage, to install this stove, and, in every case, I have urged the necessity for a flue, even if it be but a simple length of rubber pipe from the outlet through the wall into the outer air.

I know that half an hour in the motor house, with the stove burning well and the fumes not carried off, will give me a throbbing headache and a feeling of sickness, and I know others who are similarly affected. But, I am rather surprised to learn, on the authority of our medical reader, that enough carbon monoxide should come off to produce fatal results and, as one runs a danger of like poisoning with the fumes from the exhaust when one is running an engine for some time in a closed place, it would be useful to know what is the recognized treatment for this poisoning.

Because of the distress caused to the eyes and throat by the smoky exhaust in the motor-house, I made, some time ago, an outlet pipe of 1½ in. zinc piping with flexible elbows and a nozzle at each end, one to fit over the end of the exhaust pipe, and the other to connect with a vent in the wall of the house. Wherever the car might be standing (within a foot or so of a selected spot) the exhaust gases could be led outside.

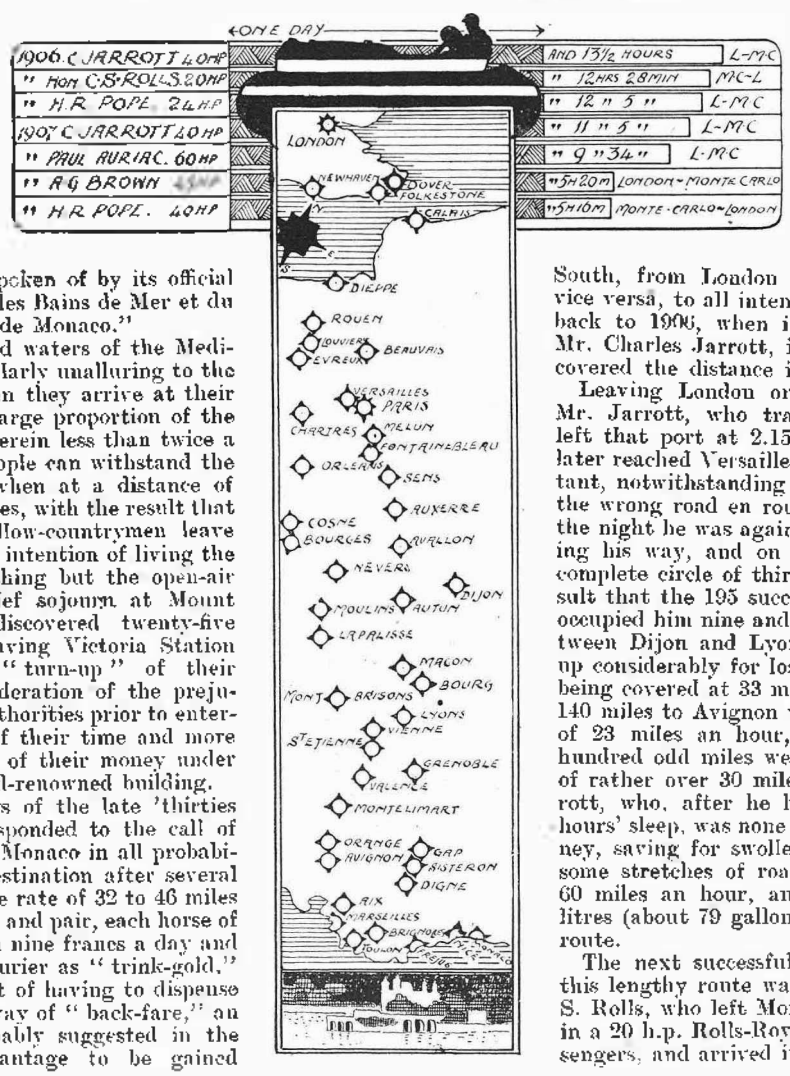
C7

LONDON—MONTE CARLO.

The Story of a Series of Motor Runs to the South of France.

AT this season of the year the well-to-do Londoner with time to spare and money likewise is seized with a craving for sea-bathing that frequently amounts to an obsession. Suggest the proximity of the gladsome Serpentine and a packet of sea salt and contumely will be levelled at the well-meaning economist. Murmur a recommendation of the bracing baths of blithesome Brighton, and the probabilities are that harsh words of scorching vehemence will be let fall. As a matter of fact, there is only one bathing place that exactly provides all the desired requirements, namely, sunshine, a balmy atmosphere and a quiet, untrammelled existence so different to London's feverish round, and that spot is a certain favoured corner of Europe whose reigning prince, we have it on the authority of a Murray's Guide to Switzerland (and presumably its environs), dated 1838, exists under the protection of Sardinia and derives his revenue chiefly from oranges and lemons, which grow abundantly upon his territory.

Time brings about many changes, and in a period as lengthy as three-quarters of a century it must occasionally come about that even a staple industry may fail and have its place usurped by other money-making methods. For example, it is quite within the bounds of possibility that the Prince of Monaco of to-day, unlike his predecessor of 1838, owes less of his annual income to Nature's bountiful provision of orange and lemon groves on his territory than to the sum that is forced upon him in return for the bathing privileges it enjoys by the amiable company that is rarely spoken of by its official title of "La Societe des Bains de Mer et du Cercle des Etrangers de Monaco."



Although the limpid waters of the Mediterranean prove singularly unalluring to the would-be bathers when they arrive at their destination, quite a large proportion of the visitors desporting therein less than twice a day, few moneyed people can withstand the call of their waves when at a distance of eight hundred odd miles, with the result that thousands of our fellow-countrymen leave our shores with every intention of living the open-air life and nothing but the open-air life during their brief sojourn at Mount Charles, and are discovered twenty-five hours or so after leaving Victoria Station turning down the "turn-up" of their trousers out of consideration of the prejudices of the Casino authorities prior to entering and spending half their time and more than that proportion of their money under the roof of that world-renowned building.

In the mellow days of the late 'thirties the traveller who responded to the call of the orange groves of Monaco in all probability arrived at his destination after several days' travelling at the rate of 32 to 46 miles per diem in a carriage and pair, each horse of which would cost him nine francs a day and one franc to the voiturier as "trink-gold," and with the prospect of having to dispense further sums in the way of "back-fare," an imposition that probably suggested in the first place the advantage to be gained by pursuing a circuitous tour. To-day thousands of British bathing enthusiasts repair to the West-End terminus of the South-Eastern Railway and bid farewell to dear, dirty London at 11 a.m., and 25 hours later step out of the train de luxe by the shore of the tideless sea, which some day in the future may yet become a week-end resort of the jaded Londoner.

At the moment of writing, the railway journey of 24 hrs. 51 min. (booked time) is the most expeditious of all the methods, ranging from the pedestrian efforts of a "Walking Parson" to the afore-mentioned train de luxe, by which Monte Carlo can be reached from the Metropolis, but how long this proud pre-eminence will rest with the railway is a matter of conjecture. As a matter of fact, the traveller de luxe, whether he is progressing by rail or turbine, progresses at an average pace of 34 miles an hour, that includes all stoppages as provided by the company's time tables, and in that time he covers something like 843 miles. Now, the actual distance between London and Monte Carlo, as the dirigible will fly, in the course of a few years, is but 640 miles, which suggests the probability of the railway time of to-day being usurped in the not distant future by an aerial record of twenty hours, or even less.

Not far short of 850 miles in less than 25 hours is not at all bad going, but the fact that man in a motorcar has achieved a similar journey along the highways and byways of France and England in only four and a quarter hours more is a positive triumph for the rubber-tyred vehicle and its driver, who, far from having a clear course, had to take things as he found them, with the result that many precious minutes were frequently lost at level crossings and elsewhere.

The race to the South, from London to Monte Carlo and vice versa, to all intents and purposes dates back to 1906, when in April of that year Mr. Charles Jarrott, in a 40 h.p. Crossley, covered the distance in 37¼ hours.

Leaving London on Thursday morning, Mr. Jarrott, who travelled via Boulogne, left that port at 2.15 p.m., and six hours later reached Versailles, about 187 miles distant, notwithstanding the fact that he took the wrong road en route. In the middle of the night he was again unfortunate in missing his way, and on one occasion made a complete circle of thirty miles, with the result that the 195 succeeding miles to Dijon occupied him nine and a quarter hours. Between Dijon and Lyons the motorist made up considerably for lost time, the 115 miles being covered at 33 miles an hour, the next 140 miles to Avignon were taken at a speed of 23 miles an hour, while the final two hundred odd miles were covered at a speed of rather over 30 miles an hour. Mr. Jarrott, who, after he had enjoyed a twelve hours' sleep, was none the worse for his journey, saving for swollen hands and face, on some stretches of road-attained a speed of 60 miles an hour, and, all told, used 360 litres (about 79 gallons) of essence while en route.

The next successful high-speed run over this lengthy route was that of the Hon. C. S. Rolls, who left Monte Carlo at 11.5 a.m. in a 20 h.p. Rolls-Royce car with three passengers, and arrived in London two minutes

LONDON—MONTE CARLO.—Contd.

under 30½ hours later. That the best of luck did not attend the driver on this occasion can be gathered from the fact that the rain descended heavily during the night, a puncture occasioned some delay, while further wastage of valuable moments was due to the slackness of level-crossing keepers in refusing to leave their beds to open gates. Notwithstanding these drawbacks, however, the Rolls-Royce arrived at Boulogne shortly after three o'clock the following afternoon, having covered 771 miles at an average pace of 26½ miles per hour, including stops. What this car and driver were capable of when the conditions were in their favour was duly observed on the occasion of the Tourist Trophy Race held in the Isle of Man the following September, when the car and the man won with an effort that showed that they covered the 161 miles, over which the course extended, in 4 hrs. 6 min. 0⅘ sec. or 39.6 miles an hour.

June is not the usual month for English visitors to wend their way to the Riviera, but that fact did not deter Mr. H. R. Pope running thither in his 24 h.p. Itala in 1906, for the sole purpose of coming back in record time, a feat he duly performed when he knocked 1 hr. 23½ min. off Jarrott's time and reached the Metropolis 30 hr. 5 min. after he left the Mediterranean. For the balance of the year and for the early portion of the following twelve months, the honours of the Monte Carlo-London run remained with the Itala and its driver.

The next attempt to lower the record is a reminiscence of the end of March, 1907, when Mr. Charles Jarrott, who announced his intention of spending his Easter holidays at Monaco, further stated that he hoped to run his 40 h.p. Crossley to that favoured resort in considerably less time than the 37½ hours he occupied the previous year. Leaving the Royal Automobile Club at 8.30 on Saturday morning, 20th March, Mr. Jarrott drew up in front of the Hotel Hermitage, Monte Carlo, 35 hrs. 5 min. later, of which time two and a half hours were occupied in shipping and unshipping the car at Folkestone and Boulogne, and crossing the Channel between those ports.

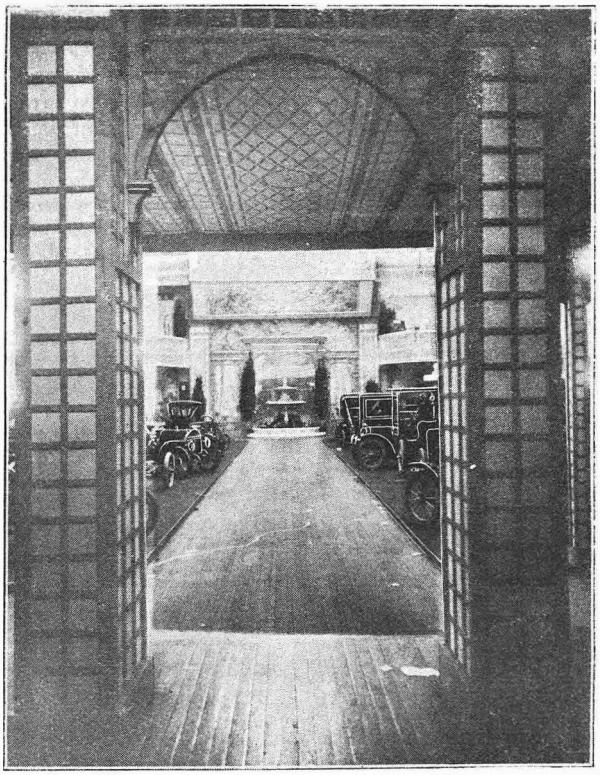
Mr. Jarrott's trip coincided in point of date with a run undertaken by Mr. Clifford Earp in a 40 h.p. six-cylinder Iris car that promised to be attended by complete success when the headlights failed on a snow-covered pass in the neighbourhood of St. Etienne, with the result that further progress was impossible until daylight enabled the benighted party, who camped out in the car, to proceed. The route selected for the trip was via Newhaven, 57 miles; Dieppe, 64 miles; and Rouen, Evreux, Chartres, Orleans, Cosne, Nevers, Moulins, La Palisse, St. Etienne, Valence, Montelimar, Orange, Aix, Brignolles, and Nice, 625 miles, or a total of rather over 750 miles. The car duly reached its destination, but the time lost in waiting for dawn spoiled the record; it is interesting to note, however, that, so far as actual running was concerned, the car covered 739 miles in 25 hours, and averaged 29 miles an hour.

Just about this time, 7th April, in point of fact, M. Sorel, the winner of the Delhi-Bombay and Pyrenees Cups, wagered that he would run from Paris to Nice in a single day, and this he did between the hours of 2 a.m. and 6.15 p.m., the journey of 563 miles being covered at an average rate of 40 miles an hour and with five stoppages —a quarter of an hour at Avallon, half an hour at Lyons, a quarter of an hour at Orange, half an hour at Aix, and five minutes at Frejus.

This notable feat naturally spurred English motorists to further action, and on Wednesday, 1st May, Mr. A. G. Brown left the Motor Club, Coventry Street, Piccadilly, at 8.25 a.m. in a 45 h.p. four-cylinder Mercedes with the avowed object of reducing the few weeks old record achieved by M. Paul Auriac when driving Mr. Edge's 60 h.p. six-cylinder Napier. M. Auriac, who selected the Folkestone-Boulogne crossing, left the Automobile Club on Friday, 12th April, at 8.31 a.m., and duly reached the Hotel Hermitage, Monte Carlo, at 6.5 p.m. on the Saturday evening, despite bad roads and unpleasant weather, but his triumph was of only a fortnight's duration, for Mr. Brown and the Mercedes still further reduced the time taken on the journey, M. Auriac's record of 33 hrs. 34 min. being whittled down to 29 hrs. 20 min. by his British competitor, who reached the famous orange groves of Monaco at 1.45 p.m. of the afternoon of the following day.

The world that motors had scarcely regained the breath taken away from it by this remarkable feat, when on 26th May, Mr. H. R. Pope once more attained the Monte Carlo-London record by means of a 40 h.p. Itala, that covered the distance in something almost approaching seven hours less than the 24 h.p. Itala had succeeded in accomplishing the task the previous year. Following the example of Mr. C. S. Rolls, Mr. Pope started from Monte Carlo at 3.30 a.m., his car conveying himself, three passengers, their luggage, and many accessories. A thick white fog between Versailles and Boulogne somewhat impeded their progress, but a speed that sometimes reached 80 miles an hour on clear roads in the earlier part of the day compensated for a delay estimated at two hours during the latter portion of the run, further loss of time at Brignolles level crossing, and in circumventing a fair in full working order at Vienne that necessitated the car taking to the side walk. Boulogne was reached at 4.5 a.m. the following morning, the 730 miles being covered at about 30 miles an hour, and ten minutes later the car was on the good ship "Canterbury" en route for the white cliffs of old England. No time was wasted in disembarking at Folkestone, and the 70 miles to London was covered at a pace that shall be nameless, but enabled the voyagers to arrive at their journey's end at 8.46 a.m., and to set up a record for the great run of 29 hrs. 16 min., where it promises to remain until M. Bleriot, M. Paulhan, or some other "bird man" decides to migrate to sunnier climes at a speed reminiscent of the swallow flying south.

The Aviation Section of the Motor Union is co-operating with the Aero Club in the promotion of an exhibition of model flying machines in connection with the Aero and Motor Boat Exhibition, to be held at Olympia next March. The Motor Union Aviation Committee offer gold, silver and bronze medals, a special silver cup, and certificates of merit for models which show practicability, originality of design, and excellence of construction.



The New York Show in Grand Central Palace. Looking into the main hall.

MAGNETO'S POINT OF VIEW

A Popular Mistake About Compression.

IT is very often assumed that any engine can be made to give more power by increasing the compression, and there are a number of car owners, apparently, who, once they find their engines are not pulling so well as formerly, are seized with the desire to have an iron plate screwed on top of the piston, and thus raise the degree of compression considerably above its normal. This, in the majority of cases, is a decided mistake. I could, if necessary, quote the results of authoritative tests which prove that the gain in power output obtained by increasing compression beyond 80 lb. per sq. in. is very small, and, moreover, it is attended with such risks of pre-ignition of the charge that it is not worth adopting, unless in special instances, such as racing engines. Many manufacturers favour a moderate compression of from 65 lb. to 70 lb. per sq. in., as it is found that keeping within this range tends to smoother running, especially at a low rate of revolutions, and the flexibility is increased. I do not say that some engines cannot be improved by screwing a compression plate on the piston, but such engines are almost invariably of obsolete type with very low compression, ranging from 40 lb. to 55 lb., but no modern engine should require any such addition, and it is certainly undesirable to risk spoiling a good engine. All that is required in the majority of instances is to see that the compression is as good as can be obtained by careful attention to valves, plug seatings, and other places where leakage may occur. The piston rings need not be examined till all other possible causes of loss of compression have been eliminated. Even should it prove to be the case that the loss of compression is at the piston rings, in many cases it will be found that removal from the piston grooves and a thorough cleansing of rings and grooves with paraffin, so that the piston rings work quite free, will restore it. New rings and trueing up of the cylinders are not so often required as is assumed.

Graphite Engine Lubricant.

A reader brings up the question of the use of graphite mixed with engine oil as a lubricant possessing special virtues. This is a very old problem, and many attempts have been made to solve it. Graphite is certainly a very fine medium for treating frictional surfaces with, especially cylinder walls, but the difficulty is in using a mixture of graphite and oil in the ordinary lubricating system of the gravity or forced pressure type. This is due to the dense graphite separating out and tending to choke up the oil leads, which may prove a very serious matter in cutting off the oil supply to some of the bearings. What can be done in many engines with considerable advantage with graphite is to place a small quantity of the finest graphite powder in the oil wells in the crankcase, so that it is automatically mixed up with the oil by the revolving connecting rod end and splashed up into the cylinder. Another good practice is to give all bearings and cylinder walls a good coating of graphite powder when reassembling the engine after an overhaul. I have heard the practice of using graphite in any way in an engine adversely criticized, one reason advanced being that, as the graphite is pure carbon in a fine state of division, it would cause pre-ignition through the graphite being thrown up on to the plugs, valves and piston head. Another reason suggested is that it would tend to collect behind the piston rings and cause sticking. To my thinking, these risks would be non-existent, one would never get anything like enough graphite in the cylinders to cause any trouble of this kind. The great value of graphite as a transmission gearing lubricant is too well recognized nowadays to need any reiteration.

Additional Notes on Workshop Equipment.

Touching again on the question of driving the lathe and certain other tools in the motorist's workshop, I have been asked whether it is practicable to use a turbine motor in place of the electric or the petrol motor. I suggested also how does it compare for cost of running with other sources of power. I have had some experience with water-driven turbines, and can certainly say that they are in every way convenient as a source of power. But it is important that the turbine to be used for this work is well up to its rated power, and is not one of the toy machines on the market. A machine intended to be used for serious work has to be scientifically designed, be solidly made, and have substantial bearings, features which are not to be found on some of the motors one comes across. Of course, the power these machines develop largely depends on the pressure of water available: it must be a good high pressure, say, from 60 lb. to 100 lb., although I know turbines can be had for lower pressures. The question as to comparative cost of running is rather an awkward one to answer. As a rule, if one wishes to use water from a company's supply mains for driving machinery, they charge a special rate and put in a meter to check the consumption. These machines certainly use a lot of water, and although I have no actual figures to base an opinion on, I estimate that the running costs would be greater than petrol or electricity. The first cost of a turbine is, however, considerably less than other forms of motors, and is so simple a machine that it is practically impossible for it to go wrong. It is very convenient and safe in operation; to start or stop one has only to open or shut the water valve, so there is much to be said in its favour, even if the consumption of water is high. I would not advise putting in a less power motor than a half b.h.p., and, as I have said, it must be a properly-designed machine and not an amateur make not capable of serious work.

Circulation Troubles.

I read with interest the experience of a reader who, after a lot of difficulty with the water circulation system of his car, finally located it at a flange joint where a rubber joint had fouled the bore. I know for a fact that this same cause has worried quite a number of car owners. It should be one of the first possible cases to be suspected in circulation trouble The experience related also proves the great importance of testing each section of the system independently. In my opinion the average test to see whether the water is passing through the system is nothing like thoroughly enough, done. If one connects up one end of the system to a water main, with perhaps 80 lb. pressure on it, of course the chances are the water will appear to get through all right. With the high pressure on the system floating obstructions do not offer much resistance, but it is a very different matter when the comparatively feeble pressure of a pump has to send the water along.

THE WAY OF THE AIR.

Last Wednesday, at Los Angeles, M. Paulhan added yet another to his list of marvellous achievements with a flight of 47½ miles from the aviation ground to Arcadia City and back in 2 hrs. 42⅘ sec. at an altitude varying from 1,000 ft. to 2,000 ft. in a hard breeze.

Beyond this, fact is lost in a maze of none-the-less interesting but wholly supplementary detail in the cabled story of the performance, which ends with the statement that the flight establishes a world's record. Wonderful as it was, however, one asks in what respect? Not for speed, even the admittedly slower biplane speed, for this speed, working out, as it does, at only a shade over 23¾ miles an hour, has been exceeded a score of times. Not, again, for altitude, for not only does Latham's best surpass his highest—2,130 ft.—on this occasion, but his own world's altitude record of 4,146 ft., made the previous Thursday, nearly doubles it.

Although—as I wrote last week—Mr. Roger Wallace's action at the International Aero Congress made it very clear that British aviation interests will not be prejudiced or governed from abroad owing to our association with the Federation Aeronautique, there is evidence enough that that association is calculated to do those interests no particular good, in the news that the Commission Aerienne Mixte has refused to recognize the two dates for English aviation meetings—granted barely a fortnight ago by the Federation Aeronautique—on the ground that they clash with French meetings. To make the position clear in its complication, I may quote the exact words of M. Georges Prade's reply to me at Blackpool, when I asked him exactly what the Commission Aerienne Mixte was: "La Commission? C'est l'expression executive de la federation; l'Aero Club Française, l'expression sportive." No definition could be clearer, especially in view of the further fact that the commission consists of prominent members of the said Aero Club and French aeroplane makers.

Now, whether the trade is going to be the dominant factor in French aviation, as in automobilism, or not, is no concern of ours. But, in view of that constitution, and still more of that phrase "l'expression executive"—which bears only one possible interpretation—it seems only too certain that the international aspect of the two English meetings, one of their chief attractions, will suffer, as the French professional aviators will hardly enter against the wishes of the trade, backed by a strong element in the French Aero Club, quite apart from any patriotic sentiment. At any rate, one can only applaud the reply of our own Aero Club that the dates will not be relinquished and that the meetings will be held as arranged. Whatever may be said for or against the advisability of the Aero Club's remaining the sole controlling body of British aviation, it is very clear that under their control the trade will never be allowed to dominate affairs.

I learn that the Frankfort Aeronautical Exhibition has produced several novelties in the way of aeromotors and propellers. One of the former has radial cylinders revolving about a fixed crank, Gnome fashion, which, cooling itself thus, of course, enables the usual water jacket and radiator to be dispensed with. But, unlike the Gnome, the cylinders are not flanged castings, but drawn-steel tubes only one-tenth of an inch thick. Still another interesting exhibit—which was successfully demonstrated—was a new propeller with light vanes, supported by a tubular steel rim. An instructive series of experiments was also carried out, as to the driving power of various propellers. From these it was found that large propellers, revolving slowly, were more efficient in proportion to the total weight of machinery than small propellers driven at high speed. This, incidentally, somewhat contradicts the results of marine experiment, especially in racing motor boats; but the conclusions may well be accurate enough for aerial purposes.

The very closely-detailed description of Lieut. J. W. Dunne's new biplane—now located at Eastchurch, Sheppey—which has appeared in "The Times," despite its manifest novelty of type, leaves one frankly doubtful of its success. It is admitted, first of all, that it relies even more than the Wright and Cody machines on the skill of the driver. Then I note the fact that it has neither tail, elevator, nor rudder, which, however remarkable, does not argue stability, the essential quality which is the chief present object of research and experiment. All elevating and depressing movements, as well as steering, are effected by manipulating two ailerons, which are hinged, as in the Farman biplane, to the rearward corners of the upper plane; lateral stabilizing, so far as possible, being also secured by the same means. Then the typical cellular conformation of other biplanes—which has its definite value, derived, as it is, from the box-kite—has been discarded, the plan aspect of the Dunne biplane being crescent-shaped, with rounded corners. Then, if size connotes weight, as it probably does, the plane-span of 46 ft.—second only to Cody's—seems unlikely to help the efficiency of the aeroplane, which, we may note, needs a 50-60 h.p. Green motor and two propellers, mounted one on each side behind the planes.

Mr. Claude Grahame-White, who has certainly not only mastered the art of flight himself, but is training several apt pupils, including four officers of the British Army, has acquired a fine piece of grass-land, giving a two-mile circuit, near Hendon, and will open an aviation school there early in April. The ground in question is only a hundred yards from the tramline from Cricklewood, and so is extremely accessible as well as suitable.

Apropos of my last week's description of the construction and principle of the new Thompson patent biplane, Mr. E. Crace-Calvert, of the Metropolitan Laboratories, 100, Evering Road, N., writes to say that he notices from this description that the principle in question embodies a device he tried some years ago and found ineffective. He also accompanies his letter with an interesting sketch of a stabilizing aeroplane device, which, quite apart from any question of novelty, seems distinctly promising.

AERONOT.

Mme. Palier, who actually pilots a Moisant monoplane.

The Motor

The sale of "The Motor" to the public through ordinary trade channels is claimed to be the largest of any motor-car journal in the World.

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7, 9, 11, 13, 15, ROSEBERY AVENUE, LONDON, E.C.

Assisting the Collection of Licence Fees.

WITHIN our hearing, the other day, at one of the places where motorists foregather, a strong complaint was raised against the action of the Inland Revenue officials, who, in their declaration form for licences and establishment charges, have provided a space for the registered numbers of motorcars of which a declaration is being made for licence purposes, it being stated on the form that this information "*must* be inserted." The complaint was well founded, and yet, to our mind, it seemed as if the motorist would be doing himself and his class no great injustice if he would look at the matter from another point of view. It is quite obvious that, except for a check upon the payment of licence fees, the information given on the form as to the car can be of no earthly use, because the licence fee is not paid in respect of keeping a particular car, any more than it is paid in respect of a particular dog, or man-servant, or design of armorial bearings, or carriage. One pays for the privilege of employing, possessing, or using one or other of these things, and, having paid his dues, the taxpayer is entitled to dispose of his dogs and buy others, to discharge his servants and engage new ones, to sell his carriages or cars and buy the latest productions, and, if he has a mind to, even to change his armorial bearings! So far as the licensing authorities are concerned, the details, beyond that of numbers, in order to determine the amount to be paid, do not come within their province. They are, therefore, acting ultra vires in asking for the information about the cars, and we doubt whether any official appointed to collect licences would take the risk of refusing the fee in the absence of the information. But there is another aspect of the matter. It is apparent, from the published figures, that on only a portion of the vehicles in use is the carriage tax paid, for the number of cars registered is far in excess of the number declared to the Inland Revenue authorities. The methods of ascertaining who is and who is not liable for these duties have always seemed to us to be inadequate. Once a person has made a declaration, and his or her name has been secured for the books, that person is regularly called upon, year by year, to make a declaration and to pay the requisite fees. But we have been told of many instances that go to show that insufficient trouble has, in the past, been taken to trace those persons who were evading the taxes. If the authorities are able to allocate the licence fees to particular cars, they would, by the end of January, be in a position, on searching the registers, to get a list of cars in respect of which no licence fees had been paid, and, by following up the registered owner in each case, be able to bring him to book. We believe that Sir W. S. Gilbert advanced the argument in "Rudigore" that it is not a crime to avoid paying taxes. But, crime or no crime, it is an undoubted injustice to those who do pay their taxes. For our part, not having been able to avoid paying taxes and licence dues galore, we see no reason why anybody else should go free, and, in a spirit of helpfulness to the Inland Revenue authorities, we gave the information asked for, and ventured to disagree with the complaining motorist aforementioned. Moreover, as the man who dodges the payment of his just dues is robbing his country, and, therefore, his countrymen, we should regard it as the duty of every person to disclose to the authorities the name of anyone so doing. Those who object to assist the collectors in these matters invariably overlook the fact that their objections, if upheld, are only assisting the dishonest ones, and effecting no good purpose for themselves, except in the maintenance of some useless and indefinable "right."

Comparisons of Styles and Methods.

THIS issue contains the final selection for the series of "Comparsions of Styles and Methods" which have appeared weekly for some time past in this journal, and judging from the numerous letters of appreciation which we have received, we think we are justified in the opinion that this feature has proved very interesting to our readers. We have dealt with a considerable number of the constructive details of a motorcar, and where the subject has been open to varied opinions, and even sometimes opposite principles, we have also given the pros and cons. of both in an article, so that the reader had the whole case before him in an epitomized and comprehensive form. The scope of these comparisons can be judged from the fact that they have varied from a magneto clip to a transmission gear, or from a shock absorber to a gearbox, the latter of which forms the subject matter of an article which is unfortunately crowded out this week, owing to excessive pressure on our space, but which will appear in our next issue. In this article the distinctive features of all the gearboxes now illustrated will be dealt with, and as this is a matter which appeals to the motorist possibly more than any other part of his car, we trust that it will be found an interesting subject, and one worthy to bring to an end the series of "comparisons of styles and methods."

What is "Dead Slow?"

AMONGST the many motor speed control signs which have been put up about the country, in one or two cases a notice has appeared requesting motorists to travel over the next piece of road "dead slow." Doubtless the party responsible for the notice had something fairly definite in his mind, but it is quite as vague and indefinite a term as would be the term "racing pace," which might be anything from 60 to 120 miles an hour, according to the horse-power and construction of the car. "Dead slow," conversely, may mean almost anything from just moving up to 15 miles an hour. When we see such a notice as this, are we supposed to at once get on to our lowest gear and throttle down to the utmost, or does it mean that we are to reduce the pace of the car to its lowest whilst still travelling on our topmost gear ratio? The two things are vastly different, and yet the term "dead slow" might, be interpreted as either one of these two things. In the former case, of course, we could keep a car doing very little more than move, whilst still driving, and in the latter case what would be really slow for one car would be quite fast for another, as, for instance, in the cases respectively of a car of small or moderate power with a six-cylinder engine having its carburetter adjusted for silence and slow travel, and in the other case a 90 h.p. vehicle tuned up for power and hill-climbing capacity. We think if we were faced by one of these notices and desired to conform with it, we should keep on the top gear and throttle down as slow as the car would travel, but even an arbitrary figure of speed would almost be better than such an indefinite request.

EDITORIAL.—Contd.

The 1910 Paris Show.

THE prognostication of "The Motor," several weeks ago that an automobile Salon would be held in Paris this year appears to have been correct, for the recently-formed Chambre Syndicale des Constructeurs d'Automobiles, or Automobile Manufacturers Association has just passed a vote in favour of holding the Show in the Grand Palais next winter. The significance of the move is that the manufacturers forming this newly-established Association are those who, over a year ago, voted against the 1909 Salon and made it impossible for the Automobile Club of France to hold that event. The continuance of the London Show has since shown them the folly of their move, and although they have not yet made an official announcement regarding their intentions, the recent vote taken in private is sufficient to reveal their intentions. It is not at all improbable that the next Salon will be held without the aid of the Automobile Club of France, for the Chambre Syndicale comprises all the leading firms, and is on sufficiently good terms with the cycle and accessory dealers to obtain their co-operation. It is strongly felt in trade circles that the Automobile Club of France is useless in this matter, for although the majority of its members have no direct connection with the industry, the Club takes the largest proportion of the profits. Last year's Aeronautical Show, organized entirely by the aeronautical manufacturers, has been an object lesson to the motorcar industry of France. As the Grand Palais has been secured for the Aero Show from 15th October to 2nd November, it is not likely that the Automobile Salon will be held before the end of November or early in December.

A Zone Scheme for London.

THE zone system of dealing with traffic has always appealed to theoreticians as being a good solution of the problem of inter-communication, and Mr. D. Barclay Niven F.R.I.B.A., contributes a cleverly-conceived scheme to the current number of the "Architectural Review," a scheme that is full of interest to those who, having a knowledge of the advantages that are accruing, and that can accrue, from the development of motorcar traffic, chafe against the extreme limitations imposed by the congested state of the roads and streets in London. We have always said that London is a colossal barrier, preventing and checking communication between places and districts on opposite sides of it. As Mr. Barclay Niven says, the unfortunate fact becomes very apparent, to anyone attempting to proceed from one outlying district to another, that all roads lead to London, and that it is, as a general rule, necessary to get into London in order merely to get out of it. In consequence, a large volume of traffic, not destined for London at all, has to pass through its already over-congested centres. The same objection, of course, applies, although in a smaller degree, to other cities and towns, for the main roads, with very rare exceptions, go from town to town, so that all through traffic along the main roads must help to add to the traffic congestion in towns. The corollary to the by-pass roads, to enable through traffic to pass round instead of through the provincial towns, is the ring road to serve the same purpose in respect of London, and Mr. Barclay Niven's proposal is for a circular boulevard round London, at a radius of ten miles from Charing Cross, so that it would skirt Isleworth in the west, Wembley, Edgware, Totteridge and Winchmore Hill in the north, Buckhurst Hill, Woodford, and Goodmayes in the east, Woolwich (by tunnel under the river), Chislehurst and Bromley in Kent, Croydon, Morden and Kingston in Surrey, to Richmond, where the river would be crossed by a new bridge. The scheme provides for roadways for fast and slow traffic, and a tramway and a railway connecting up the tramways and railways radiating from London. Without a doubt, such a boulevard would relieve London traffic to a great extent, and it will be remembered that Mr. Rees Jeffreys has already proposed a ring road for this purpose, his suggestion being laid before the Royal Commission on London Traffic. But, whereas Mr. Jeffreys proposed to take advantage of many existing roads, widening and straightening where necessary, and linking them all up, Mr. Barclay Niven proposes that a strip a quarter of a mile in width should be purchased at an estimated cost of about seven millions sterling, and that roads, railway and tramway should form the base of a great development scheme, which would recoup the main outlay. From the point of view of traffic, and particularly motor traffic, such a scheme should be supported, but we should not be surprised if it did not require modification in respect of direction, for a purely circular road has no particular virtue, and it would, in many places, run too far out to relieve existing roads. And it is highly probable that an existing tunnel and an existing bridge would serve equally as well as new ones, and thus reduce the cost of the scheme. Great care would be necessary in planning the scheme, for the history of similar ideas in the past has shown that a circular course breaks down in face of the opposition of a direct route. Thus, the circle railway in London, the circular boulevards and the Ceinture railway in Paris have not fulfilled the requirements of the traffic to the full extent of the original schemes, and, thus, we have seen the growth of the inner network of railways in both cities, whilst Baron Haussmann used his circular boulevards as feeders to his intersecting boulevards. Mr. Barclay Niven's article is only one of many interesting features of the Review, and it will well repay perusal, because he goes into many matters that we have not been able even to refer to here.

Our Paris correspondent's notes on the subject of France and the English aviation fixtures are well worth perusal. They give another exemplification of the utter incapacity of the French to act the part of sportsmen.

EDITORIAL NOTICES.

"THE MOTOR" is published in London every Tuesday morning. All editorial communications and copy must be addressed to "The Editors," and, to ensure insertion, should reach the office, 7-15, Rosebery Avenue, London, E.C., by first post Saturday. Important items of late news are received up to first post Monday morning.

Contributions, literary and artistic, are invited, and will be accorded careful consideration, on terms set out on the first page of the Sale and Exchange section at the end of the book, to which readers are referred for other notices.

INDEX TO CONTENTS.

FINANCE & BUSINESS

Transactions on the Stock Exchange have been less numerous than usual during the past week, public attention rightly being given more to the elections than to the purchasing of shares. Prices, however, have been well maintained, and, in the majority of cases, are slightly better than a week ago. The only exceptions to the rule are Darracqs which have weakened to 14s. 3d. Investors and speculators are sensitive folk, with a penchant for looking well ahead, and those who believe that a change in fiscal policy may be made in the near future are waiting the results of the elections before purchasing further holdings in foreign concerns. Daimlers are steady, Dunlop Rubber Income Stock is firmer, whilst Swifts and Rovers have been good markets.

We are informed by the Secretary of the Simms Manufacturing Co., Ltd., that the directors have thought it expedient to change the title of the company to that of the Simms Magneto Co., Ltd., for the manufacture of magnetos and ignition apparatus. As the Simms Magneto Co., Ltd., exists as a subsidiary company, it has been necessary to place it into purely formal liquidation in order to secure the change of title. When the arrangements are completed, the Simms Magneto Co., Ltd., will be in exactly the same position as to status and capital as that of the Simms Manufacturing Co., Ltd., at present.

We have made inquiries from the Deutsche Nafta Aktien Gesellschaft, which has works at Birkenwerder, near Berlin, about some rumours that have reached us concerning the proposal to manufacture a motor spirit called Rapidin, but have failed to receive a reply. Our Berlin correspondent has made inquiries, and we would like the company to reply to certain questions, for, if the manufacture of Rapidin is being delayed until the organization of its production is complete, it will only be fair that judgment should be withheld until production is well under way. The original scheme was, we are told, to produce 25,000 gallons of Rapidin a day with a staff of 18 people, the cost being 3½d. per gallon, or 5d. a gallon including such items as cost of demonstration, repairs, depreciation, etc. The selling price being 6d. a gallon (to the retailer presumably) a profit of £88,000 per annum was fore-shadowed, although there may be some error here because 25,000 gallons a day for, say, 300 days at 1d. per gallon will not produce that profit. We would like the company to tell us if it is true that the actual cost, on the present prices of the raw material, is turning out at 1s. 3d. per gallon, meaning a retail price of 1s. 8d. per gallon, and if it is true that the manufacture of Rapidin is being dropped, the company preparing to make ordinary benzine (motor spirit)? It will be a pity if the original scheme should thus prove to be unworkable, for any increase in the sources of motor spirit is to be welcomed by the public. On the other hand, it is useless to raise false hopes.

Official information has been received by the Society of Motor Manufacturers and Traders of the new French tariff on cars, chassis, tyres and other rubber goods of British manufacture which will come into force as soon as it is formally passed by the Senate. On chassis, with or without motor, and with or without body, the old rate used to be 20s. 4d. per cwt. The new rate will be 40s. 8d. per cwt. for vehicles weighing less than 9¾ cwt.; 30s. 6d. per cwt. for vehicles weighing from 9¾ cwt. to 49½ cwt., and 20s. 4d. per cwt. for vehicles weighing over 49½ cwt. The rate on passenger-carrying bodies will be 30s. 6d. per cwt., as against the former rate of 20s. 4d. per cwt. Thus the rate has been materially increased, for, whereas cars entered France under the old rate of 20s. 4d. per cwt., the majority will now come under the 30s. 6d. rate., a 50 per cent. increase. The rate on pneumatic tyres, treads and tubes has been increased from 28s. 5½d. per cwt. to 40s. 8d. per cwt., solid tyres entering for 32s. 6d. per cwt. The increases would have been greater still on pneumatic tyres, tubes and treads under the revisions originally proposed, and in no instance has the proposed revised rate been reduced, so that there has never been any justification for the statement circulated in certain quarters that the French tariff on British productions would be reduced.

We have only just received an intimation from the Stern-Sonneborn Oil Co., Ltd., announcing the death of their senior managing director, Mr. Julius Wallach, who has been connected with the firm for upwards of 20 years.

"THE MOTOR" SHARE LIST.

The Prices recorded in the end columns are those ruling on the Stock Exchange at midday on Monday last, 24th January.

All the shares are fully paid except Alldays £5 ordinary shares and Rolls-Royce.

SHARES.		NAME.	Dividend.		Previous Prices. 1909.		1910.		Prices 24th Jan.	
Issued Capital.	Paid Up.		Last.	When payable.	Highest.	Lowest.	Highest.	Lowest.	Buyers.	Sellers.
£										
45,000	£3	Alldays & Onions...	5%a	Mar./Nv.	3¼	2¾	3½	3	2¾	3
50,000	£5	,, ,, Cum. Pref. 6%	6%	Mar./Nv.	5½	5	5¾	5½	5⅝	5¾
203,803	10/-	Argylls, Ltd.	—	Nov.	—	—	5/-	4/-	4/-	5/-
97,833	£1	Belsize Motors	6%	Nov.	18/6	9/-	19/6	18/3	19/6	20/-
75,000	£5	Brampton, Cum. Pref. 6%	6%	Oct.	4⅛	3¼	4	3¼	3⅝	3¾
100,000	£1	J. B. Brooks & Co.	5%	Mar./Nv.	24/-	20/-	24/-	22/6	23/6	24/-
100,000	£5	,, ,, Cum. Pref. 5%	5%	Mar./Nv.	5⅝		5⅝	5¼	5¼	5⅜
100,000	£5	Brown Bros., Cum. Pref. 6% ...	6%	Ap./Oct.	4⅝	3¾	4⅝	4⅜	4⅝	4⅝
984,000	£1	Charron Ltd., Par. Pref. 7%...	—	—	10/6	7/6	10/6	7/6	7/6	10/6
200,000	£1	Daimler (1904)	nil	Nov.	51/9	25/6	44/9	43/-	43/9	44/3
76,900	£1	,, ... New Pref. 6%	6%	Nov.	20/-	12/6	19/3	18/-	18/6	19/3
275,000	£1	Darracq (1905)	7½%	Apr./Nv.	21/9	14/6	15/-	14/6	14/-	14/3
875,000	£1	,, ,, Pref. Ord. 7%	7%	Ap./Oct.	18/-	13/3	15/-	14/6	14/-	14/6
98,787	£1	Deasy Motor	nil	Oct.	10/6	4/-	5/3	4/6	4/9	5/3
168,283	£1	De Dion-Bouton (1907)	4%	May/Nv.	9/-	5/-	8/-	6/6	6/6	7/6
220,000	£1	Dunlop Rubber Co.	100	Nov.	10¾	7⅛	10 13/16	10 5/16	10 5/8	10 11/16
319,614	£1	,, ,, (French Income Stock)	—	—	—	—	21/-	20/6	20/9	21/-
624,996	£1	DunlopTyre,NewCum.Ordy.,8%	8%	May/Nv.	19/6	16/-	19/3	18/0	19/-	19/3
924,990	£1	,, ,, Cum. Pref. 5%	5%	May/Nv.	17/6	15/3	17/-	16/3	16/9	17/-
499,962	£1	,, ,, New Deferred	8%	May/Nv.	18/9	13/10½	18/6	17/9	18/-	18/3
75,000	£1	Friswell (1906)	10%	Jan./Au.	¼	¼	¼	¼	¼	½
50,000	£1	,, ,, Cum. Pref. 6%	6%	Jan./Au.	½	½	½	½	½	¾
—	£1	Humber (New)	—	—	9/3	3/9	10/11½	9/9	9/9	10/-
—	£1	,, Cum. Pref. 6% (New)	—	—	10/9	5/9	12/3	11/7½	11/6	12/-
100,000	£5	J. Lucas, Cum. Pref. 5%	5%	Feb/Oct.	5⅝	5			5⅛	5⅜
62,805	1½/-	Rolls Royce, Par. Pref. 6% ...	8%	Jan.	15/-	5/-	15/-	14/3	14/6	15/-
138,668	£1	Rover	nil	Nov.	13/3	7/3	14/-	12/9	13/9	14/-
62,000	£1	Spare Motor Wheel of America	— b	—	8/3	1/6	3/-	1/6	1/6	2/6
70,000	£1	Star	nil	—	6/3	2/6	5/9	5/9	5/6	5/9
50,000	£1	,, ,, Cum. Pref. 7%	nil d	—	16/-	8/-	14/9	14/-	14/3	14/9
87,550	£1	Stepney Spare Wheel	20%	Nov.	25/6	23/-	24/9	23/6	23/6	24/-
40,000	£1	Sunbeam M.C. Co.	nil	—	19/6	14/-	19/-	17/6	19/-	20/-
80,000	£1	Swift	6%	Apr./Nv	21/3	13/3	21/-	19/9	20/6	21/-
100,000	£1	,, ,, Cum. Pref. 6½%	6½%	Apr./Nv.	17/6	14/9	18/-	17/-	16/9	17/3
148,500	£1	Thornycroft, J. I. & Co.	nil	Mar.	¼					
198,000	£1	,, ,, Cum. Pref. 6%	— e	May/Nv.	¼	¼				
80,000	£1	Triumph Cycle Co.	10%	Nov.	—	—	24/-	19/6	23/6	24/3
50,000	£1	,, ,, Cum. Pref. 5%	5%	Nov.	—	—	15/6	14/9	15/6	16/6

a Plus 5% bonus, making 10%. b New Company. c In arrears since Sept., 1904.
d In arrears since March, 1904. e In arrears since May, 1906.

The New Rudge-Whitworth Guarantee.

The Rudge-Whitworth detachable wheel was invented and manufactured in the year 1906. Each year has added its experience; difficulties in adapting it to the different cars or adapting the cars to the wheel have been met and overcome, but hitherto it has been regarded as of such a nature that only a guarantee very much limited as regards time has been given, or, indeed, has been possible.

The behaviour of all the types of Rudge-Whitworth detachable wheels has been carefully followed up and analysed, and Rudge-Whitworth, Ltd., now feel that they can with confidence guarantee the wheel for a far longer period, and are now prepared to guarantee their wheels for three years from the date on which they are sold. This guarantee has only been determined on during the current week, but it has been made retrospective, and applies to all wheels that were despatched from the Rudge-Whitworth factory on and after 1st November, 1909, the date on which the 1910 pattern, with the double lock, was first issued. This guarantee also applies to any repairs to older pattern wheels which are effected after the date of 1st November, 1909.

NEWS AND NOTES.

A Motor Election.

It was prophesied that the motorcar would play an important part in the General Election. Some idea of its value may be gathered from the following figures compiled by the Hastings and District Centre of the Motor Union. One hundred and forty-five motorcars were used in Hastings for electioneering purposes on polling day. In spite of the crowded condition of the streets, owing to the presence of foot passengers and loiterers, there was not one single accident in the town or neighbourhood which is attributed to motor traffic. Two accidents reported (one of which, it is feared, will prove fatal) were both due to horse carriages. These facts serve to emphasize at once the value of the motorcar and its safety.

Points for Taxi-users.

This week's issue of "The Commercial Motor"—to be published on Thursday—will contain some 20 points on Tariff Reform in relation to the changed hackney-carriage trade. Many people who hire taxicabs, not excluding motorists, are peculiarly ill-informed about the essentials of taximeter charging rates and the laws which govern the drivers of such vehicles. Our contemporary, which has been in the forefront of the motorcab movement for several years, will present an admirable and concise statement of the case in the form of a precis. We anticipate that it will prove extremely useful to the general public, and that applications for permission to reprint this copyright series of points will be numerous.

The name "Coatalen" has been deleted from the title of the Hillman-Coatalen Motor Car Co., Ltd., of Coventry, which is now known simply as The Hillman Motor Car Co., Ltd.

Bermondsey Explained.

"At eight o'clock this morning Mr. Dumphreys' frantic workers had no fewer than 50 cars in readiness; whilst up to 10 o'clock the vehicles at the disposal of Mr. Glanville's workers were merely two traps."

Little "par."
From the "Star,"
Those "two traps"
Must explain
"Liberal Gain"—
Yes, perhaps.

Glanville only
Had two pony
Shetland friskers:
Dumphreys' stars
Fifty cars—
Rapid whiskers.

Fifty motors!
Yet, the voters,
Riding free,
Party coats changed,
And their votes changed
Bermondsey.

Yes, perhaps
Those two "traps"
Will explain
Glanville's innings—
Trappers winnings—
Liberal Gain.
And perhaps
Dumphreys' outing—
Lack of scouting—
"Working Traps."

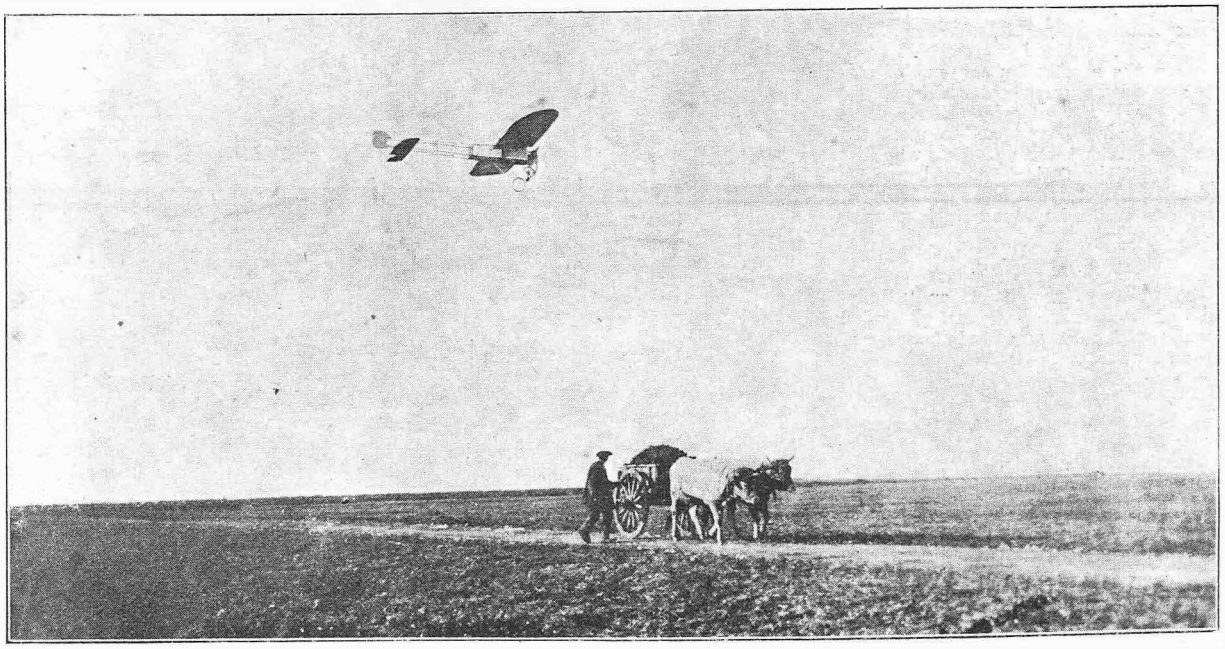
FRED GILLETT.

The Transmission Number of "Motor Cycling" is now on sale everywhere. It will be found to be a most interesting issue in every way, fully illustrated, and full of attractive features.

Opening of the S.A.C. Clubhouse.

Last week the popular president of the Scottish A.C., Sir John Macdonald, K.C.B., supported by a company of members, including many ladies, opened the new clubhouse in Blythswood Square, Glasgow. Wisely enough, the Scottish Club have not saddled themselves with a clubhouse till their membership warranted its success, but now, with a roll of over 1,500 members, they have provided a centre and meeting place for Scottish Motorists. Not of huge dimensions, No. 11 Blythswood Square is, nevertheless, spacious enough for the Club's requirements for many years to come. Originally the home of a well-known artist, the house has been completely altered for its present purpose under the superintendence of Mr. A. Hunter Crawford, F.R.I.B.A. The feature of the clubhouse is an extremely handsome smoke-room of considerable size, panelled in oak, with lounges upholstered in cow-hide. Over the fireplace is an oil panel, the work of Mr. R. Burns, A.R.S.A. A dining-room, library, billiard-room, a large drawing or common-room available to ladies, and a ladies' lounge are other features of the accommodation.

Sir John, in declaring the building open, said he thought they might look forward to the time when it would be a surprise to see any vehicle drawn by animal power in the streets, at which some laughter took place, which Sir John hoped was not a laugh of incredulity, for he was quite certain it would come to that ere long. After Mr. John Adam, chairman of committee, had proposed a vote of thanks to Sir John, a tour of inspection was made by those present, who found much to admire in the new headquarters of the Scottish A.C.



Interesting contrasts in locomotion. Le Blanc making a recent flight across country at Pau, near Bordeaux.

c23

NEWS AND NOTES.—Contd.

Voting by Motor.

The photograph of Mr. Charles Jarrott on a 45 h.p. six-cylinder noiseless Napier is particularly interesting. It shows him at Alton, Hampshire, during a most extraordinary sporting drive. He was asked to assist in election matters recently, and the way he did it was unique, and adds one more laurel to his sporting records.

Mr. W. J. Hayward, a gentleman of 73 years of age, had a vote in Norwood, Ashford (Middlesex), Alton (Hants), Newhaven (Sussex), Herne Bay (Kent), and Leigh-on-Sea (Essex). All these places had their poll on the same day, namely Friday, the 21st, and Mr. Jarrott undertook that Mr. Hayward should record his votes at every one of the stations, and this was successfully done. It was Mr. Hayward's first ride in a motorcar, and the total trip from the time he left home at Herne Hill in the morning, and the time he arrived back at night was 344 miles, and included the car being taken across the river by the ferry at Gravesend.

It will be easy to imagine that Mr. Hayward is now a confirmed motorist, because by no other method of locomotion but the motorcar could such a cross-country trip be accomplished.

The General Election and the R.A.C.

Although the R.A.C. is necessarily a non-political institution, except so far as its own policy of furthering the interests of the motor movement is concerned, it is interesting to note that no fewer than 200 constituencies in Great Britain have been or are to be contested by members of the Club or of the clubs associated with it, while, in some cases, both the opposing candidates in one division are motorists and members of the Club. At the lowest estimate, one-third of the members of the new Parliament will be motorists. The result of the General Election affects motorists but little, since motoring members must find themselves on both sides of the House.

Stepney-Davies Wheel.

The Stepney Spare Motor Wheel, Ltd., 168, Great Portland Street, W., will have on the market by the end of this month a new spare wheel which will be called the Stepney-Davies wheel. This wheel is being introduced to meet the requirements of those motorists who find a difficulty in fitting the old pattern Stepney and yet are not prepared to pay the price of an improved Stepney with flange attachment.

Correction.

The writer of the article on "Body-building Timbers" has been reminded that Kauri is a New Zealand timber, and not an Australian, as stated. He apologises for the lapse of memory which passed over the lower but not unimportant part of the Empire "down under."

Messrs. Alldays and Onions advertize their 20-24 h.p. car at £360. We are asked by the firm in question to state that this is an error: the price should be £370.

Messrs. Bell and Smart, Ltd., 48, Tottenham Street, Tottenham Court Road, W., are the London agents for the "F.L." car which was recently described in our columns.

c 24

American Show.

Some Tendencies of Modern American Design Noted in Exhibits at a Fine Show.

(SPECIAL CORRESPONDENCE.)

ONE might say that at this exhibition every car was a thoroughbred. All of the models shown in the 54 complete car exhibits are exemplary of mature automobile engineering judgment and of good-class coachwork. Comparatively few chassis were exhibited, the majority of manufacturers considering they have already reached a standard of mechanical practice. In the main, the coachwork was conservative in design, no Berline bodies, Louis XIV. effects, or bizarre combinations of colour being shown. Each manufacturer, as a rule, has a straight-line torpedo body model. Mention might be made here of the most popular, air-cooled, six-cylinder car, the Franklin, which has a torpedo body with a hood a la Renault, but half as long again. The effect is distinctly pleasing.

The elimination of the chain drive is going on slowly but surely, and many cars of the 50 h.p. class are now showing live-axle models. A practice gaining in favour is to carry the propeller shaft inside of a torque tube. A single universal joint, with stub and sleeve, is used at the transmission case end of the tube, the practically straight-line drive giving good mechanical results. Thus the two side radius rods, and the truss form of torque member are eliminated, as well as the universal joint near the axle end of the propeller shaft. Disc and cone clutches find equal favour. It is noteworthy that the drawbar equalizer for the rear-axle hub brakes is used extensively.

With regard to brakes, there was but one touring car in the whole show which was found to be equipped with a sprag. This speaks well for the braking surface areas of all the cars.

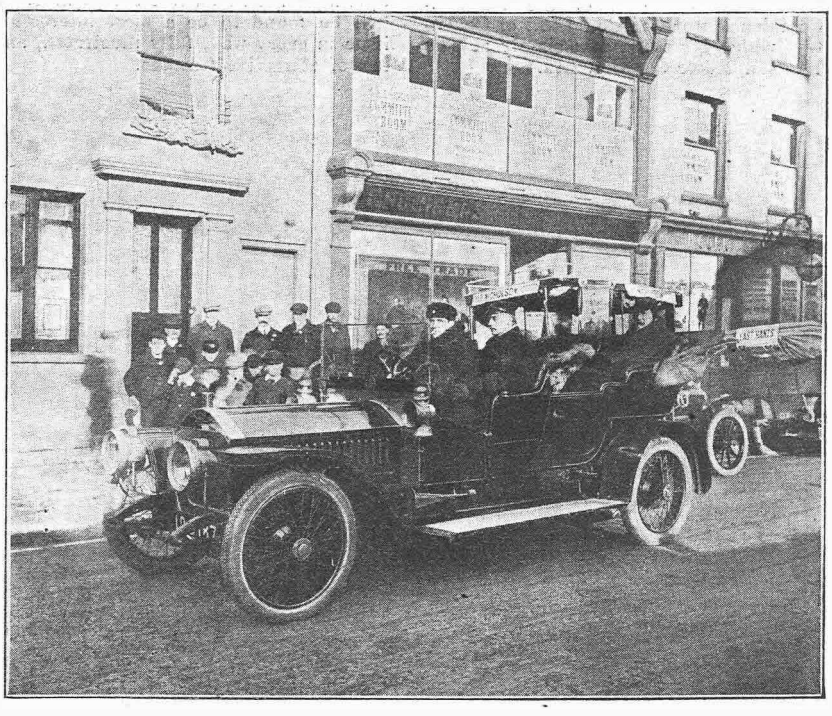
Although compressed carbon dioxide gas reservoirs are carried on most of the big touring cars for tyre inflation, one or two makes install a small air pump, driving it by gear from the half-time shaft.

Some of the four-speed shaft-drive transmissions are neater in design and more compact than formerly. Direct drive is conventionally on the third gear, and this is secured either by the older jaw clutch engagement, or by means of internal teeth on the engaging member. This latter is claimed to be more silent, doing away with the familiar metallic click when the direct drive is engaged. In some transmission gear sets, where the lay or secondary shaft is always in motion, the teeth on the lay-shaft driving wheels are helical. The half-time and pump gears are often cut in this way, a constant tooth pressure being obtained, due provision being made for the thrust.

The water-circulation pump was placed in a rather neat way on one car. The pump, of the centrifugal type, was contained in the hollow supporting member of the crankcase; whilst the rear support to the crankcase on one side was made to serve as an oil sump.

Double-jet carburetters, with square, cross-section induction pipe to the manifold, are used. The greater area of the pipe and greater velocity of the gases would seem to offer an advantage.

Considerable attention has been paid to the ignition wiring, the wires being, in most cases, neatly grouped and well insulated. Many minor improvements are observed, such as stops on the steering knuckles to prevent any possibility



Mr. C. Jarrott on the 45 h.p. six-cylinder Napier on which he carried a voter of 73 a distance of 344 miles to record six votes.

NEWS AND NOTES.—Contd.

of the wheels touching the steering rod from the worm gear hanger, special spring clips, neat arrangements of shock absorbers, and tiny grease cups on points formerly left with a small drilled oil hole.

Double lighting systems are in vogue, a flexible bracket holding both the acetylene burner and electric bulb in the lamps so that either may be placed in the correct focal position relative to the lens.

Manufacturers report about 75 per cent. of their 1910 product sold, whilst one or two prominent makers are already refusing further orders for 1910 models. The average annual output of each of the best half-dozen cars which come to mind is 1,500 cars. Many exceed this, and yet not a few of the high-class motor manufacturers halve this figure.

The desire for speed, or for a car that is capable of it, is manifested by the many models exhibited which can attain from 70 to 90 miles an hour; but this rather abnormal type was offset to advantage by the many pleasing designs in electric "Runabouts," Stanhopes and Coupes.

Contemplating this show as a general example of American motorcar design, manufacture and salesmanship, it is clear that the industry is worthily representative of the world's progress in self-propelled vehicles.

R.A.C. Certified Trials.

The following are the entries to date for the London to Edinburgh non-stop engine run, to be carried out under the official observation of the Club:—

1. Mr. J. W. Stocks (Messrs. De Dion-Bouton, 1907, Ltd.), 10, Great Marlborough Street, W., 18 h.p. De Dion-Bouton car.
2. The Austrian Daimler Motor Co., Ltd., 15-16, Cockspur Street, S.W., 20-30 h.p. Austrian Daimler car.
3. The New Engine (Motor) Co., Ltd., Acton Hill Works, Acton, 40 h.p. New Engine car.
4. Messrs. Bedford Motors, Ltd., Bedford House, 136-137, Long Acre, W.C., 15-18 h.p. Bedford car.
5. Messrs. Chas. Jarrott and Letts, Ltd., 45, Great Marlborough Street, W., 12 h.p. Sizaire car.
6. Messrs. Chenard and Walcker, 45, Great Marlborough Street, W., 12 h.p., Chenard-Walcker car.

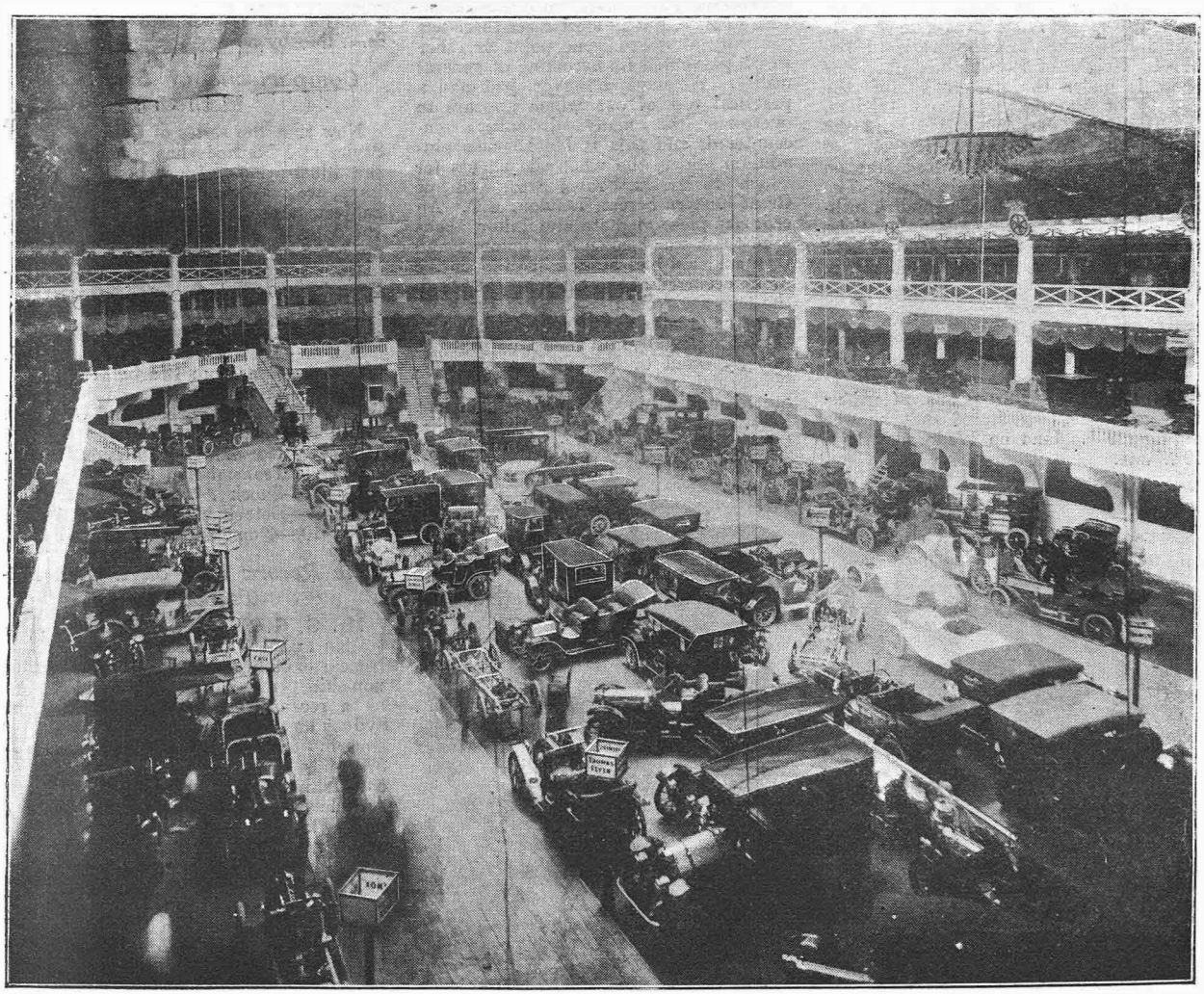
The above cars are going to Edinburgh for the Scottish Motor Trade Association Exhibition, to be held in Waverley Market, Edinburgh, from the 28th January to the 5th February. The Club's certificate of performance will be issued in each case.

Wanted—A Flying Ground.

The Aviation Committee of the Motor Union are looking for a suitable headquarters' flying ground for the use of members, and are willing to pay the sum of £10 to the person who first suggests the site ultimately taken by the committee. Certain conditions are essential in a ground to be used for aeroplane practice; it must be open, uncultivated, and free from obstructions. Further particulars may be obtained of the secretary. Motorists and others are invited to forward plans and particulars of suitable grounds, which should state the name and address of the owner or his agent, to the secretary of the Motor Union, Caxton House, Westminster, S.W.

In Messrs. Selfridge's advertisement in this journal last week, our readers were asked, no doubt to their surprise and astonishment, to "Come and handle the stuff that costs you nothing." There was here, of course, a typographical error. A dash should have been inserted between the words "stuff" and "that"—a little matter involving a big difference. Messrs. Selfridge's are noted for their bargains, but they have not yet reached the point of absolutely giving their goods away

For the R.A.C. Associates' dinner on 3rd February, the whole of the Connaught rooms, and not only the banqueting hall, are engaged.



General view of the American Auto Show in Madison Square Garden.

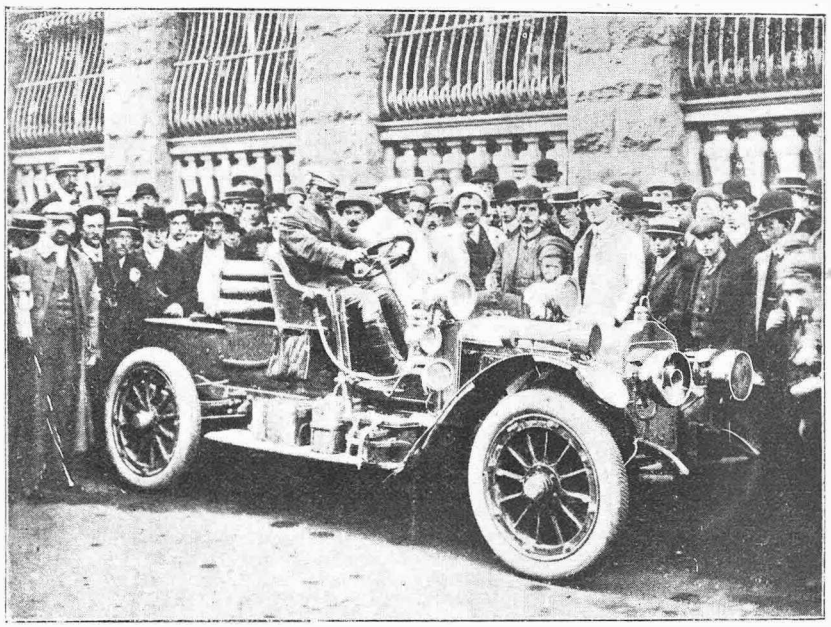
The Edinburgh Show.

On Friday next Sir John H. A. Macdonald, K.C.B., "the grand old man of motoring," will open the thirteenth annual Scottish show. As usual, the Waverley Market, Edinburgh, is the venue, which remains the most suitable building in Scotland, despite the fact that the exhibits on market mornings have to take second place to the vegetables. It is to be regretted that no suitable exhibition building exists in Glasgow, for there is no doubt of the "second city" being the better market. Still, there is a growing demand for a permanent show building for Glasgow, and when it materializes, a show held alternately in each city should suit all concerned. To return to the forthcoming show, there is every promise of a successful event, space being fully occupied, and the exhibits of a thoroughly representative character. There will be 94 stands, occupied by 92 exhibitors, and there will be over 100 different models on view, although, of course, the total number of exhibits will be about double that number.

From the models to be shown, it is apparent that the agents favour the car ranging from £300 to £500 in price, as over half the models come within these limits.

Opening on Friday, 28th January, the show will remain open till Saturday, 5th February. The promoters are, of course, the Scottish Motor Trade Association, the secretary of which is Mr. David A. Fairley, and the president Mr. W. L. Heigh, of Rossleigh, Ltd. The show is under the patronage of the Society of Manufacturers and Traders, the Royal and Scottish Clubs, and the Automobile Association, members of which bodies will be admitted free on presenting their membership cards. The hours are 11 a.m. to 5 p.m., and a military band will dispense suitable numbers at intervals during the day. In our next issue we shall give an illustrated report of the show.

Mr. W. M. Letts, who is on a business trip to the States, sends us New Year greetings from New York, and reports that the show at Madison Square Gardens is a good one. He stated that he was sailing for England on Wednesday last, 19th inst.



Mr. G. G. White on his 35 h.p. Talbot, holder of Melbourne to Sydney record, 577 miles in 21 hrs. 19 mins.

An Aluminium Solder.

A number of processes for soldering aluminium have been introduced from time to time, but in most cases there has generally appeared some point or other which prevented its becoming of general utility. We have, however, just had a practical test of one which appears to overcome the many difficulties encountered, and this is Mackenzie's aluminium solder, the wholesale agents for which are Messrs. Brown Bros., Ltd., of Great Eastern Street, London, E.C. An ordinary piece of plate aluminium about ⅛ in. thick was broken by a hammer and then soldered and broken again, but the break occurred above the joint, although the leverage from the blows of the hammer was greater at the joint than where the plate actually did break, so that the test appeared to be quite satisfactory. No special, or even ordinary, flux is required, and a blow lamp gives sufficient heat to melt the solder, so that no distortion of the metal need occur in the crankcase or other article being soldered. It is essential to clean the surfaces, etc., carefully, but otherwise the operation is simpler than ordinary brazing, and no soldering iron is required. The price is 8s. a lb.—by no means exorbitant.

Comparisons of Styles and Methods.

Now that the series of Comparisons of Styles and Methods has concluded with the illustrations of gearboxes in this issue, we may give the following list of subjects that have been dealt with and the dates on which the illustrations have appeared:—

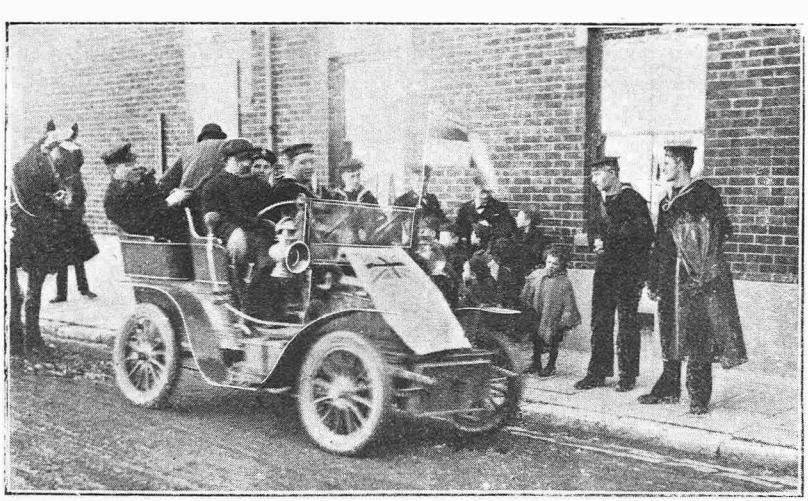
No. 1.—Magneto Shaft Couplings; 18-11-09.
No. 2.—Back Axles; 18-11-09.
No. 3.—Torque Stays; 23-11-09.
No. 4.—Front Wheel Brakes; 30-11-09.
No. 5.—Rear Hub Bearings; 7-12-09.
No. 6.—Triple and Multiple Point Suspension, Engine, Gearbox, and Complete Unit; 14-12-09.
No. 7.—Rear-axle Transmission Drives; Rear-axle Transmission Gears; 21-12-09.
No. 8.—Shock Absorbers; 28-12-09.
No. 9.—Detachable Wheels; 11-1-10.
No. 10.—Non-skid Devices; 18-1-10.

Fine Record Run on a Clement-Talbot Car.

Mr. G. G. White, a well-known Australian amateur motorist, driving a Talbot car of 35 h.p., fitted with Continental non-skid tyres, left Melbourne at 9 p.m. on a recent Thursday, and arrived at Sydney on the Saturday at 6.19 p.m., thus covering the long and trying journey of 577 miles over unbroken country in the astonishingly fast time of 21 hrs. 19 min., and lowering the previous record by 4 hrs. 21 min. The average pace works out at nearly 27½ m.p.h.

On inspection, at the completion of the drive, the car and tyres showed no signs of the terrific strain they had undergone.

Only a few motorists have attempted to motor over the hundreds of miles of bush tracks that lie between the two capitals, and they alone can properly appreciate the performance which Mr. White has placed on the record slate.



Jack at the poll. Sailors going by motorcar to vote in the Portsmouth district.

NEWS FROM PARIS.

Squeezing England Out of the Aviation Calendar—French "Sporting" Instincts Again—Calendar of Continental Motor Events—First Aviation Meeting of the Year.

(BY OUR PARIS CORRESPONDENT.)

IT is difficult to follow the reasoning of the French aeronautical authorities in the matter of the clashing of dates of next season's meetings. As set forth in last week's issue of THE MOTOR, the International Federation granted Great Britain 11th to 16th July for its meeting. The date was far from being advantageous, for it immediately followed the Rheims gathering, and overlapped by two days the event of the Automobile Club of France, which is practically a second edition of the Rheims meet. As France already possesses about 50 aviators and England has yet to train her men in the art of flying, it was obvious that the home country was in danger of being squeezed out by French competition.

The French sportsman, however, looks at the matter in a different light. England has been granted a date that clashes slightly with the Rheims and Automobile Club meetings. The clashing is not likely seriously to affect France, while it will certainly seriously jeopardize the success of the English meeting. The French plan, therefore, is to wipe out the English meet, in defiance of the International Federation. This is what was done at a meeting of the Aerial Mixed Commission—representing the Aero Club of France, Automobile Club of France, and Ligue National Aerienne—at a meeting held in Paris this week.

A stroke of the pen, disposed of the Englishmen; a unanimous vote altered the date of the Rheims meeting to 3rd to 24th July; a second vote added a meeting at Rouen from 19th to 26th June; and still a third granted "Le Matin" 6th to 21st August for its aeronautical demonstration in the east of France. It was perfection: a string of big international meetings, commencing on 19th June, and continuing almost without interruption, and without clashing, until 21st August. Then somebody suggested that there was the Englishman to consider.

"Oh! certainly; he can keep his old date of 6th to 13th August, which clashes with the self-advertising scheme of 'Le Matin'; but perhaps 'Le Matin' will be kind enough to come to an agreement with our neighbour."

Needless to say, the reply of "Le Matin" was that he had secured his date and would stick to it. To cripple poor old England still further, the sportsmen of the Commission Aerienne Mixte passed a resolution that any French aviator taking part in the boycotted English meet should be disqualified. Now it only remains for the International Federation to ratify the decisions of the French authority, or be dissolved, and for John Bull to politely bow himself out—or fight.

One of the side issues of this delicious piece of sans-gêne is to raise the question. Of what nationality is Henry Farman? Legally, he is British, and can take part in the English meetings without fear of being disqualified. Having spent all his life in France, however, and having more interests in France than in England, it is doubtful if the French authorities will allow him to escape so easily. Hubert Latham's nationality does not enter into discussion, for, although he comes of English stock, he is legally a French citizen.

The New Aviation Calendar.

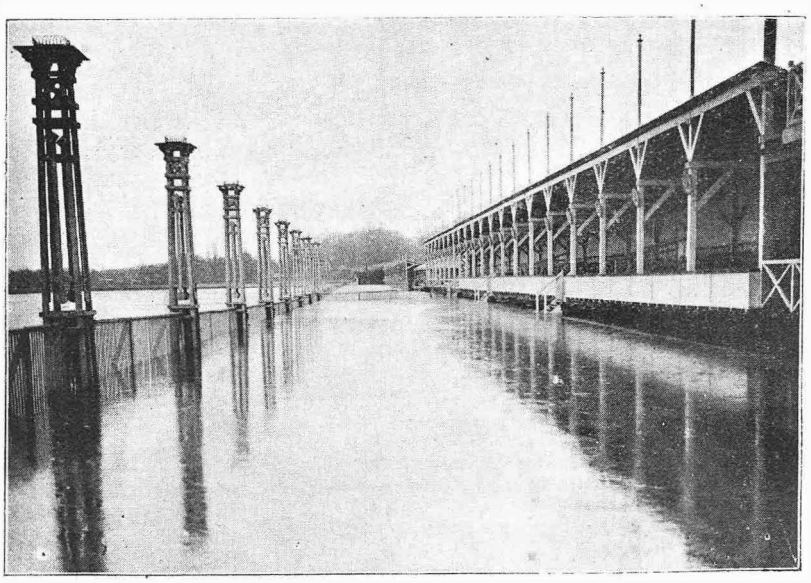
The new calendar comprises 11 international meetings, each having a prize list of not less than £8,000, and 16 other meetings, including that of Great Britain, most of which are only national, and offer less than £8,000 in prizes. The total amount announced in prizes is £135,000: this does not include the amounts offered by several of the smaller meetings. The revised Commission Arienne Mixte calendar, which will be forced on the International Federation, is as follows:—

6th to 13th February.—Heliopolis meeting: £8,000 prize money.
27th March to 3rd April.—Cannes meeting: £3,200 prize money.
27th March to 3rd April.—Biarritz meeting: £2,000 prize money.
10th to 25th April.—Nice meeting: £10,000 prize money.
30th April to 5th May.—Tours meeting: £1,800 prize money.
10th to 15th May.—Bordeaux meeting: £1,600 prize money.
7th to 15th May.—Lyons meeting: £8,000 prize money.
10th to 16th May.—Berlin meeting: not exclusive.
15th to 23rd May.—Marseilles meeting: £2,000 prize money.
20th to 30th May.—Verona meeting: £8,400 prize money.
27th to 31st May.—Limoges meeting: £1,200 prize money.
5th to 15th June.—Budapest meeting: £24,000 prize money.
5th to 12th June.—Vichy meeting: £1,200 prize money.
5th to 12th June.—Juvisy meeting.
18th to 24th June.—St. Petersburg meeting: not exclusive.
19th to 26th June.—Rouen meeting: £8,000 prize money.
3rd to 24th July.—Rheims meeting: £20,000 prize money. Including Automobile Club of France cross-country race.
24th July to 4th August: Brussels meeting: £8,000 prize money.
27th July to 2nd August.—Caen meeting: £2,000 prize money.
6th to 13th August.—English meeting.
6th to 21st August.—Town-to-town race in east of France, organized by "Le Matin."
25th August to 4th September.—Le Havre Trouville meeting: £9,600 prize money.
9th to 18th September.—Bordeaux meeting: £8,000 prize money.
24th September to 3rd October.—Milan meeting.
2nd to 9th October.—Juvisy meeting.
18th October to 2nd November.—American meeting, including Gordon-Bennett race.
4th to 18th December.—Marseilles meeting.

If exception is made of the British position, the calendar is an excellent one, for it comprises 11 international events, held at Heliopolis, Nice, Lyons, Verona, Budapest, Rouen, Rheims, Brussels, east of France, Havre, and Bordeaux, the dates of which are so arranged that no clashing whatever takes place. It is true that, at the same time, other meetings are allowed; but as these are national events, with a smaller prize list, and likely to attract beginners and little known aviators, they will not in any way interfere with the international meetings.

Continental Motor and Motor Boat Calendar.

Although there are no road races this year, a calendar of motoring events has been drawn up as usual by the various European clubs and associations united



The aviation ground at Juvisy is entirely submerged as shown in the above photograph of the grand stand.

NEWS FROM PARIS.—Contd.

in a meeting at the rooms of the Automobile Club of France. Major Lloyd attended on behalf of the Royal Automobile Club, but did not put forth any dates for that body. Although the calendar is a long one, the events, for the most part, are only of local interest. In France the more important of the events are a spring wheel competition, Monaco motor-boat races, voiturette race, a race for stock cars, reliability trials, commercial vehicle trials, and Gaillon hill-climb. Russia puts forth an interesting touring competion, to take in the towns of St. Petersburg, Kiev and St. Petersburg. The full programme of events is as follows:—

13th February.—Motor-sleigh competition at Gerardmer (Vosges).
20th and 23rd February.—Winter Cup and Gothenburg Cup (Automobile Club of Sweden).
3rd March.—Koenistal hill-climb, Austria.
22nd March.—Elegance competition at Monte Carlo.
27th March to 4th April.—Motor exhibition at Prague.
31st March to 8th April.—French spring wheel competition.
1st to 15th April.—Monaco motor-boat races.
2nd to 24th April.—Turin motor exhibition.
1st to 4th May.—Munich small car exhibition.
1st May to 1st October.—Motor and aviation exhibition at Vienna.
8th May.—Road records at Modena, Italy.
22nd to 29th May.—German-Austrian motor-boat cruise on the Danube.
24th and 25th May.—Motorcar tour round Vienna.
26th and 29th May.—Catalogna Cup, Barcelona, Spain.
28th May to 9th June.—St. Petersburg motorcar exhibition.
2nd to 8th June.—Prince Henry Tour (Germany).
5th June.—Motor-boat regatta at Muggelsee, Germany.
17th and 19th June.—Motor-boat regatta on the Elbe.
19th June.—Motor-boat races and hill-climbing competition in Sweden.
20th June.—French voiturette race.
21st June.—French voiturette race for stock chassis.
23rd to 28th June.—Motor-boat race at Kiel.
26th June.—Val-Suzor hill-climb.
26th to 29th June.—Tour in the Austrian Alps.
22nd June to July 5th.—Touring competition, St. Petersburg, Kiev and Moscow; also commercial-vehicle test, St. Petersburg, Moscow, St. Petersburg.
27th June.—Speed tests at Kiev, Russia.
1st to 12th July.—Motor-boat meet by Motor Yacht Club of Germany.
2nd July.—Kilometre tests at Moscow.
10th to 12th July.—Touring competition in east of Germany.
12th to 18th July.—Ostend week.
17th July.—Motor-boat race from Stockholm to Gothenburg.
20th to 25th July.—Boulogne motor meet.
August.—First fortnight. Ardennes motorcar races.
15th August to 15th September.—French commercial vehicle trials.
21st August.—Salon, France, 1 and 5 kilometre tests.
28th August.—Mont Ventoux hill-climb.
29th and 31st August.—Guipuzcoa, Spain, hill-climb and kilometre tests.
3rd to 6th September.—Liedekerke Cup, Ostend Cup and Voiturette Cup, at Ostend.
8th to 25th September.—French reliability trials.
18th September.—Semmering hill-climb.
2nd October.—Gaillon hill-climb.
October (end).—Automobile Club of America Grand Prix for stock chassis.

First Aero Meet of the Season.

Hubert Latham, Rougier, Jacques Balsan and Madame Delaroche are among the aviators who left France this week for Heliopolis in order to take part in the first aero meet of the present season. One of the most interesting of the aeroplanes to be employed in this meeting is the No. XI. Bleriot, owned by Jacques Balsan, and fitted with a Gnome motor. Unlike the machine with which Leon Delagrange met his death, this Bleriot has been specially prepared to stand the strain of the 50 h.p. engine. The extremities of the longitudinal frame members are united by a steel girder work in the form of a cross, the centre of which contains the outer crankshaft bearing. A similar construction receives the rear extremity of the shaft. The radiating cylinders are surrounded by a sheet-metal housing, thus concentrating the air on the cylinders, and, at the same time, preventing the splashing of oil in the face of the pilot, who is seated immediately in the rear.

Before leaving for Egypt, only one trial of the aeroplane was made on the Issy ground, but this was sufficient to show that the machine is a remarkably fast flyer.

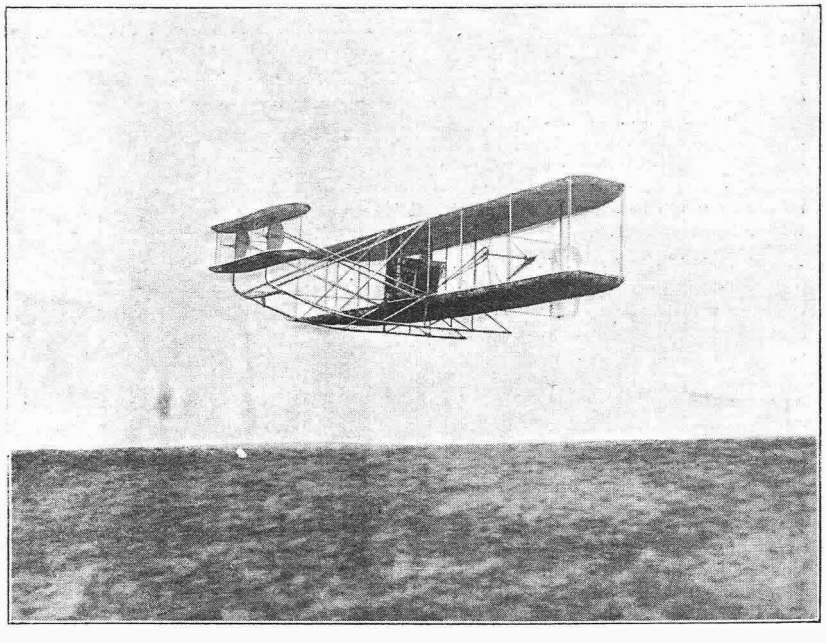
Aeroplane Pilot Licences.

Twenty-seven aeroplane pilots' licences have now been granted by the Aero Club of France, the holders being Louis Bleriot, Glenn H. Curtiss, Leon Delagrange, Esnault-Pelterie, Henry Farman, Maurice Farman, Jean Gobron, Comte de Lambert, Hubert Latham, Louis Paulhan, Henri Rougier, Santos-Dumont, Tissandier, Orville Wright, Wilbur Wright, E. Bunau-Varilla, Leblanc, Manet, Metrot, Prince Bibesco, Aubeun, Balsan, Hon. C. S. Rolls, Mortimer, Singer, Moton, Henri Bregi, and J. de Lesseps. It is obvious that the list does not comprise all the men who have succeeded in making important flights, for such names as Sommer, Fournier, Chateau, Kuller, Legagneux and Gaubert, to mention only half a dozen who have made single flights of half-an-hour's duration, do not figure on the list. There appears, indeed, to be a considerable amount of red-tapeism about the issuing of pilots' licences, for one aviator, having flown for an hour on three different occasions, as testified by members of the Aero Club, was recently refused his certificate on the excuse that the request was not made on the official form.

Proposed Motorcycle Section at March Exhibition Abandoned.

The question whether the Society of Motor Manufacturers and Traders should include a motorcycle section in the Aero and Motor Boat Exhibition at Olympia in March came before the Council last week and was decided in the negative. It was also decided to assist the Cycle and Motor Trade Association to hold a cycle and motorcycle show at Olympia in November by subletting the hall to them if an extension of time could be obtained from the proprietors of Olympia.

The Continental Tyre and Rubber Co., Ltd., inform us that, owing to the great increase of their business in South Wales and the south-western counties, they have decided to open, on the 1st February next, a branch depot at 63, Victoria Street, Bristol.



BRITISH AVIATION.

Mr. Rolls making a fine flight at the new aviation ground of the Aero Club of Great Britain at Eastchurch, on Thursday last.

"THE AUTOMOBILE OF THE FUTURE."

A Solution by an Edinburgh Inventor.

TO render the gas supply independent of the piston speed would be an undoubted advance in petrol-engine construction. In our issue of 28th December there appeared over the signature of A. Gore, of Edinburgh, a letter in which the writer claimed to have solved the problem of "The Automobile of the Future." Mr. Gore claimed for his engine exceptional power for the cylinder volume and speed, and also a very low petrol consumption. These statements having aroused some interest, we interviewed Mr. Gore in Edinburgh, when he showed us the drawings for his engines, the principal feature of which is the gas supply under pressure.

Mr. Gore, it appears, is not designing an engine primarily for car work, but he informed us that two cars with Gore engines and without gearboxes had been on the road last September, but owing to differences with the

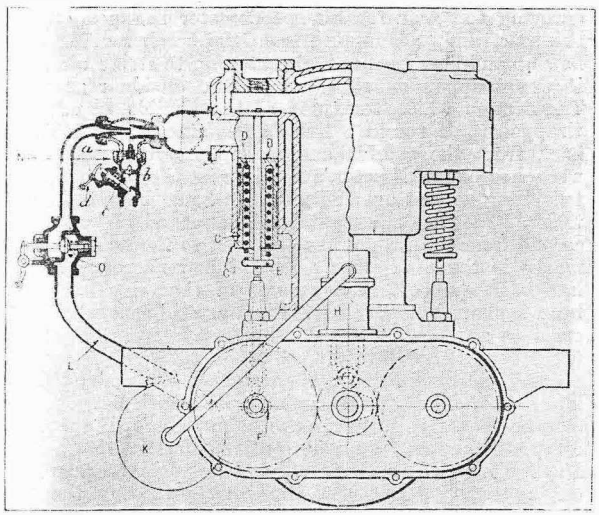


Fig. 1.—The Gore four-stroke engine showing air compressor, reservoir, vaporizing device and balance valve.

builders the chassis had been destroyed. Mr. Gore also says that he produced last year a forced induction aerial engine which he offered to the War Office, who could not accept his offer owing to the power being too high for any work they then had in hand. The engine was, however,

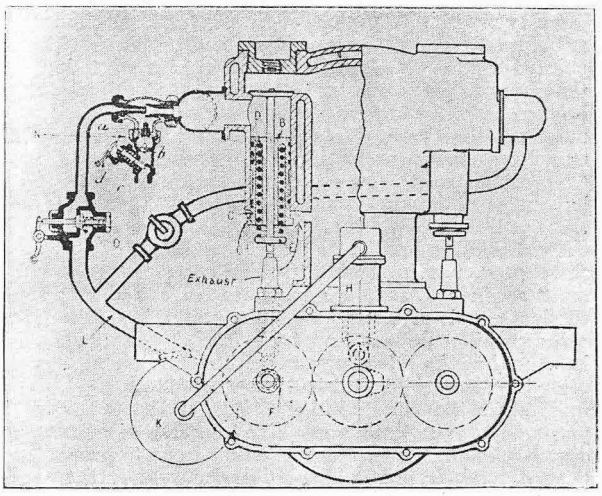


Fig. 2.—The Gore two-stroke engine.

bought, says the inventor, a few weeks after, by a foreign Government. However, Mr. Gore hopes to put in hand another engine shortly, when we are to have the opportunity of seeing it running.

As Mr. Gore makes some very important claims for his engine, the following brief description may be of interest, although we must state that the drawings are not to scale, nor have we seen an actual example? Still, the principle adopted is a practical one, and there is no reason why, with suitable dimensions, etc., such an engine should not be powerful, flexible and economical, and if Mr. Gore is applying it to purposes likely to form the subject of subsequent patents his reticence can be understood.

Fig. 1 shows an end view and part section of a four-stroke motor with five cylinders, as fitted to the experimental car. The inlet valve first claims our attention, as the charge being supplied under pressure it has perforce to be balanced. This is done by the piston and sleeve (B), the spring acting between the two parts of the valve so that it is practically floating and imposes no undue strain on the lifting mechanism, despite the pressure of the charge.

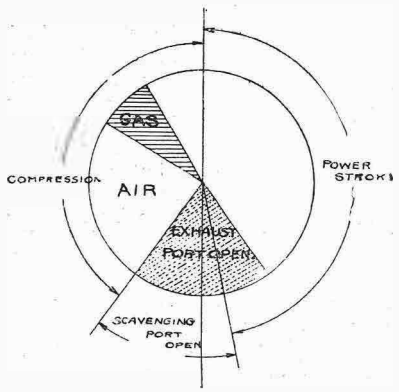


Fig. 3.—The cycle of operations of the Gore two-stroke engine.

At H is a small air compressor, which maintains a pressure of about 50 lb. in the reservoir (K). The air passes by way of the pipe (L) and valve (O) to the ejector device shown. The compressed air issuing from the nozzle draws the fuel through the jet shown at a, below which is a non-return valve (b) and a needle feed (c). The fuel, as it meets the compressed air of slightly higher temperature, is both atomized and vaporized, and the charge is then admitted to the cylinder through the valve under pressure. By means of a sliding camshaft the valve can be closed at any part of the stroke, so that the effect of a variable cut-off is obtained. Critics have raised the point of the smallness of the compressor for filling the cylinder with gas at 50 lb., but it is claimed that, for ordinary running, the supply is cut off before the piston reaches the end of its stroke.

With five cylinders the engine is self-starting, as not only is there the 50 lb. pressure available, but the opening of the valve (O) ensures a charge being drawn in also, hence there is both the pressure of air and the ignition of the charge to give one of the pistons an initial impulse. With a two-cycle engine on the same principle, Mr. Gore claims that starting under load is actually possible.

Given that Mr. Gore has solved the mechanical difficulties, his engine should certainly possess great flexibility and reserve of power, although whether it would have sufficient to ensure starting on all gradients without the assistance of gears requires ocular demonstration.

The engine from which Mr. Gore anticipates the most is the two-stroke type, which resembles the four-stroke type in principle, but differs in detail, as shown in Fig. 2. In this engine what were the exhaust valves are now scavenging valves constructed in the same way as the balanced inlet valves. Ports shown at E are formed in the cylinder wall at the bottom of the stroke for the exit of the waste gases. From the air pipe (L) a branch pipe and valve convey compressed air to the valve box on the opposite side of the engine.

The action is as follows. The scavenging valves open first, the compressed air sweeping out the exhaust gases

THE AUTOMOBILE OF THE FUTURE.—Contd.

and becoming compressed as the piston rises till towards the end of the stroke, when the charge is admitted. By this arrangement constant compression can be maintained, the air acting as a cushion, while the point at which the gas is admitted can be varied according to the power required.

The engine may be reversed by the sliding cams, and control is obtained by the sliding inlet cam, and the main compressed air valve either singly or in unison.

The gas supply being independent of the piston speed, the power output can be varied through a very wide range, and as the charge can be maintained, or even increased, as the speed falls a good torque at low speeds is obtainable. The diagram in Fig. 3 shows the cycle of operations, which makes clear how the working stroke every revolution is obtained. A point which at once comes to mind when examining this is how the charge at 50 lb. is going to get into the cylinder when the inlet valve is opened late in the compression stroke, although, with a maximum compression pressure of 75.25 lb. it is comparatively late in the stroke that the 50 lb. pressure is attained. In this connection it must be understood that the cylinder is not filled at the beginning of the compression stroke with air at 50 lb. pressure.

Such, then, are the leading features of Mr. Gore's forced induction engine, which it is hoped the inventor will see his way to have subjected to an R.A.C. test. Serious consideration of his claims (which, by the way, we give with all reserve) may well be deferred until such a test has been made.

UNTOLD TALES.

Random Notes from a Diary of Brooklands. *(Concluded from p. 944.)*

AT the foot of the steep, winding hill which forms the approach to the dark tunnel that leads under the track, and so to the paddock road, there has been for a couple of seasons a heavy baulk of timber, which can either be drawn up to obstruct the road or let down out of harm's way. During the last season it has not been used, but during the second season an attendant was always stationed there on race days to control the passage of cars by means of the hefty timber. The reason why this crude but effective control was introduced was because an accident had occurred at that spot during the first season. A big racing car, in charge of a foreign driver, was returning from the paddock to its lock-up, what time another big racing car was being taken from its garage for a spin round the track. The two met just where the steep hill sweeps around the sharp corner into the tunnel. As both were travelling at a good pace and as there was some confusion, at least in the mind of one of the drivers, as to the rule of the road, the cars did not pass each other, but met with a rude shock. Damage was done to both, and one was turned partly over into the sand bank. The rencontre was not without its amusing side. Where the blame lay it would have been difficult to determine, but the owner of one of the cars settled the question to his own satisfaction by immediately sending in to the other party a bill for damage done to his car, and I have a suspicion that it was his driver who had been most to blame. The bill was paid.

Just before this incident occurred, an event happened which, fortunately for the track, was kept rather quiet. It would have provided good copy for the sensational papers, because it was nothing more or less than the first high-speed accident to take place on the course. The 90 h.p. Napier was down at the track being tested for fuel consumption. It was a dull afternoon, and when one of the trials had just started a light rain had begun to fall. At that time there was a considerable amount of dust on the track, which no heavy rain had fallen to clear away. The light drizzle turned this dust into a slippery paste, and just as the big car rushed up from the fork at about 90 miles per hour, on the lap which Draper, who was driving, knew would exhaust his fuel supply, the paste on the banking behind Cane's Hill—known in the early days as the "mouth of hell"—reached that consistency most inviting to a skid. The skid duly took place, the big car doing a waltz and rushing down the banking into the sand of the hill, where it turned over. Draper was picked up, unconscious, close by. He had a most marvellous escape, for he suffered no worse injury than a severe scalp wound, and, escaping the evil effects of nervous shock, he was completely restored to health in about six weeks. The Napier machine was repaired, and made many more appearances on the track.

Two incidents occur to my mind when serious accidents were averted only by the very narrowest margin. The one case, when Newton and Resta collided at 100 miles an hour on the Byfleet banking after the snowstorm on Easter Bank Holiday, 1908, was told in the papers at the time. The other case happened earlier in that same year, when Newton was beating records up to two hours. The bracket carrying the gear for his speedometer snapped off from the axle, and, rebounding from the track several times, flew up and near his head, threatening to strike him, until it was snapped off short under the offside rear wheel. The section which remained of the flexible transmission wrapped itself round a link in the steering as it jerked back from the sudden snap. The steering control was wrenched out of Newton's hands, and the car, which was travelling at just over 85 miles an hour, bounded off the track. The incident must have happened in less than a second, for Newton got the car back to the track, but the marks in the sand clearly showed how narrowly disaster had been averted. His records of that day have since been broken, but perhaps it remains still somewhat indiscreet to ask how, officially, the records were affected by the fact that Newton left the track.

Of the many thousands of spectators who were at Brooklands on the day of that memorable match between Nazzaro and Newton, few were aware how narrowly that event escaped from fizzling out immediately before the meeting. During practice the F.I.A.T. was not altogether without engine troubles. On the Saturday preceding the Whit Monday the engine had been completely dismantled, and was not entirely re-erected until late that evening. At that time, owing to a pending law action, no cars were allowed on the track on Sundays, and as there was an inflexible rule that no cars should be admitted to run on the track on the morning of race days, it seemed that there would be no opportunity for the engine to be tested properly before the match. Nazzaro and his mechanics were in despair, for they recognized full well that they would be unable to run the engine before the grounds closed that night, and that, if they had to wait until the Monday morning to run the engine, insufficient time would remain to remedy any small defects. When this was pointed out to "Roda," he expressed his regret, but said that he was unable to make any exception to the rules. For some time he remained adamant, but at last, after the most pressing entreaties, he yielded to one concession, namely, that the mechanics should be permitted to enter the grounds on the Sunday in order to run the engine, but under no circumstances could the car be admitted to the track until the time appointed for the match itself. On the Sunday Nazzaro and his men were able to effect the necessary adjustments to their entire satisfaction, so much so, indeed, that the great Italian was able to spend the last couple of hours before the match in slumber.

Meanwhile, matters had fared badly with the Napier. Newton had had few opportunities for driving his car after the alterations that had been made to it, and, therefore, after the close of the racing on the Saturday he prepared to take the big machine for a few circuits of the course. The track, it must be pointed out to prevent any misunderstanding, was open to anybody after the racing was over until 7 o'clock. But just as Newton let his clutch in to leave the paddock he stripped the teeth of

UNTOLD TALES.—Contd.

his low gear. He had no spares to replace the damage, and it was obvious that he would not be able to start in the match without the use of his first speed. Nothing daunted, he had the big car towed away from Brooklands to a garage, returned in all haste to town, and rounded up some men to go immediately to the works. Needless to say, the parts were special ones, and had to be cut with extreme accuracy from blanks. All through the night and all day Sunday the men worked loyally, with the result that some hardened pinions were produced by Sunday night to replace the ones that had broken. Even then Newton's worries were not at an end. It would have been risky to have trusted to the new gear without first testing it, and, therefore, at four next morning he gave it a thorough gruelling on the road. At that early hour, just about sunrise, the highway and hedges were clear, and there was no danger to users of the road—or to Newton himself either, for the police were sleeping their sleep like other mortals. Doubtless, had they known about the great green car speeding over the straight, open road in short, sharp bursts they would have taken up their posts in the hedges as the sun rose over the horizon. Prepared for the worst, which, however, did not happen, Newton also took his fastest 60 h.p. racer down to the track, and he would have started on this had he again stripped "Samson's" first gear. In the match his 90 h.p. machine did not last three laps, and it is pretty certain that, had he started his 60 h.p. "Mercury," he would have been able to keep the F.I.A.T. at a pace which would have burst the tyres of the Italian car, for even as Nazzaro finished, having averaged about 92 miles per hour, there was a great strip of rubber off one of his front tyres.

One of the most interesting sights that could be witnessed on the course during the first season was the "sacking" of track attendants. If the smallest piece of work was ever neglected, the man at fault was instantly dismissed, but the humour of the situation was that some men were still to be seen about the track even after having been "sacked" three times. I really believe that it was scarcely ever "Roda's" real intention that a man should actually leave when he was dismissed, but that, if the man was fool enough not to stay on or not to ask to stay on, he was allowed to depart. It is said that on one occasion, when a member made some petty complaint against an attendant on duty at one of the gates, "Roda," in order to appease this fussy individual, took him along to the attendant, whom he immediately sacked, but the man received double wages that evening, and was to be seen at another place at the next meeting.

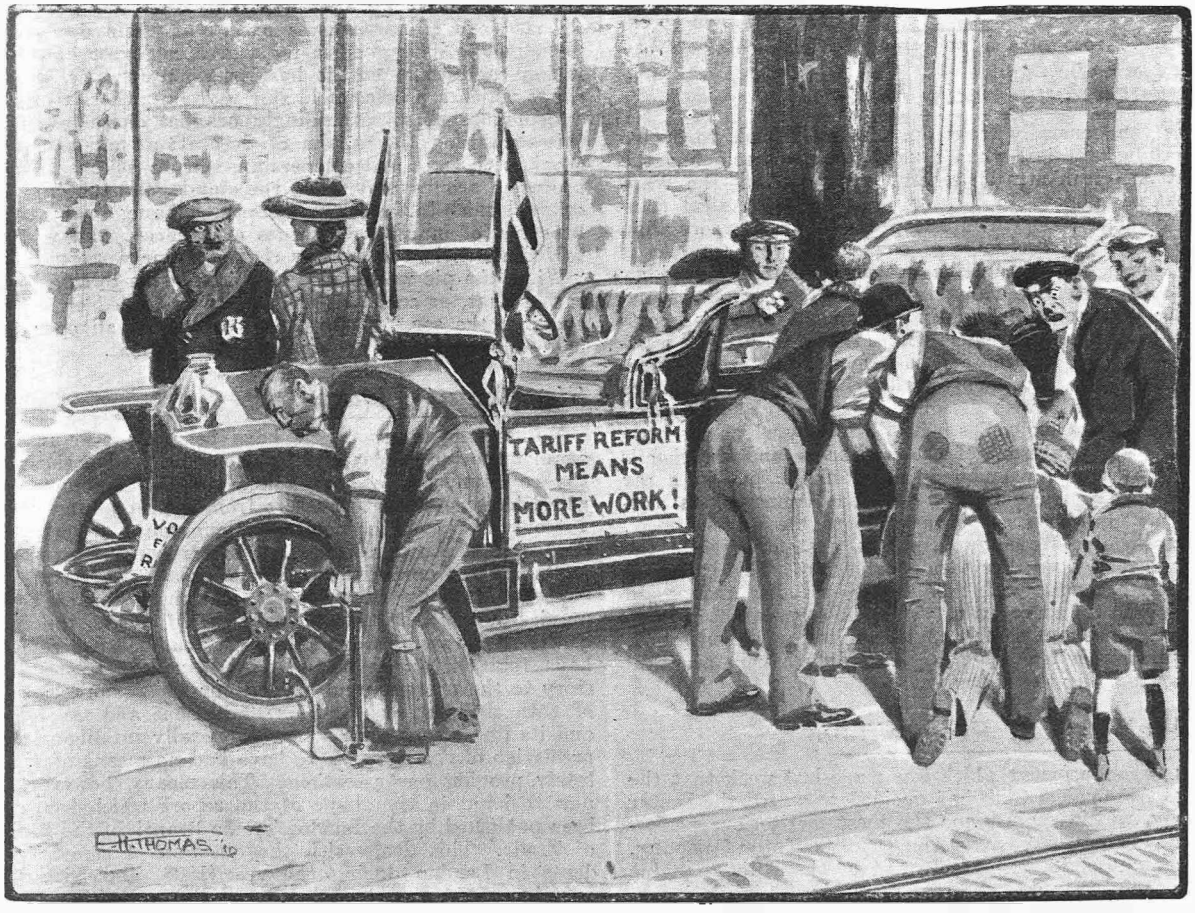
That "Roda" was a thoroughly good-hearted man is shown by the fact that once, when an employee told him that he would leave at the end of the week, "Roda" sent him off with a month's salary, telling him that at that period of the year he would probably find it a difficult matter to find another berth immediately.

A lot happened in those days, but most of the incidents were too personal to be related yet.

INSPECTOR X.

The Local Government Board have intimated to the Motor Union that they have decided not to comply with the application, which was opposed by the Union, of the County Council of West Sussex for the issue of a regulation limiting the speed of motorcars along a portion of the main Brighton-Worthing road.

This week's "Motor Cycling," published yesterday (Monday), and now on sale everywhere, is a particularly interesting issue, as considerable space is devoted therein to descriptions and illustrations of the various forms of transmission adopted on motorcycles.



One of the cars engaged in the Holborn election was observed in the Gray's Inn Road with two tyres deflated, and a busy crowd quickly set to work to get things right. By a strange irony the car bore the inscription: "Tariff Reform Means More Work!"

MY WAY OF THINKING

BY HENRY STURMEY

What is a Constable?

I BELIEVE the act says that a motorist must stop if signalled to do so by a police constable, but surely this is only intended to apply to police constables when in uniform; yet it would appear that, at any rate, some of our magistracy and police force would have us believe otherwise. At Acocks Green Police Court a few days ago a Leamington motorist was fined 20s. and costs for "driving a motorcar at a speed dangerous to the public," though the chief evidence of the police appears to have been centred upon a charge of failing to stop when called upon to do so by two "plain clothes officers." In his evidence the defendant said "he saw a good many boozy men about on Christmas Day"—the day in question—"and when he saw the two plain clothes officers waving their arms at him, he thought they belonged to this class, and so took no notice of their antics," at which, indeed, I am not at all surprised. How is a motorist to know that a man is a policeman unless he has the insignia of his office visible upon him, for one cannot always be expected to recognize a policeman by his boots?

An Ingenious Body Design.

We can generally trust our Yankee friends to evolve something practical when a need presents itself, and the great American firm of general goods dealers—the Wannamakers—appear to have arrived at a practical solution of a problem which has presented itself more than once to British designers of commercial vehicles. As is well known, the value of the motor vehicle is in its rapidity of transit, and the value to the trader is to be found in the time saved in transportation. A motorcar costs more than a horsed vehicle whilst it is standing and waiting for its load, because it is a more expensive vehicle, and the interest and depreciation charges per annum are higher. Some British designers have before now figured on interchangeable bodies, with devices by which the body would be left in front of the warehouse and the chassis run away from or under it as required; but in a car which has been constructed for the Wannamakers' service, no alteration has been made to the vehicle itself, but a skeleton framework, or box, just fitting into the body of the wagon, has been constructed. This is packed in the warehouse, and then lifted by hoists and passed bodily into the empty van. The whole operation of loading-up, therefore, so far as the motorcar is concerned, occupies but a few minutes. Certainly a very practical way of meeting the difficulty.

A Well-earned Recognition.

The announcement which was made last week that the Royal Automobile Club had decided to award the Dewar Trophy, which is given for the most meritorious performance during the year, to the Daimler Motor Company, on account of its memorable test of the Knight engine last year, finally sets the seal upon Mr. Knight's invention. I do not think anyone will cavil at the decision which has been made, for undoubtedly it was the greatest test which a motor engine has ever been put to, and it was most certainly a test which none of its competitors was prepared to attempt, or the challenge which the Daimler Company issued subsequently would have been taken up. I must also confess that both the result of the test and the award are satisfactory to me, because I believe I was not only the first, but practically the only motor journalist, and almost the only member of the trade outside the Daimler Company, who saw the merits of the engine and accepted it from the day of its introduction. But all that is now a matter of ancient history, and, as was evidenced at the recent Show, the success of this unique departure has been productive of a great deal of indirect good in serving to break down the intense conservatism of ideas which has hitherto existed in the motor trade and amongst the motoring public. We are a long way off finality yet with the motorcar, and the longer we stay in any one particular rut, the longer we shall be in reaching it.

A Novel Departure in Decorations.

Whilst continuing to adhere to a uniform scheme of decoration of their exhibitions, which our American friends originated a year or two back, the organizers appear to have somewhat departed from the Puritanic severity and plain business aspect of their decorative plan, and to have gone in for a greater degree of elaboration each year, but it has remained for one of the shows which are being held this year over there to make a departure of an exceedingly original character. At this exhibition the system of decoration adopted was floral, with trees and creepers and shrubs in considerable profusion around and above the stands, and the entirely original finish to the scheme was the hanging amongst the branches of innumerable cages of canaries, and we are told that, as in the nursery rhyme of our younger days, "When the pie was opened the birds began to sing," or, rather that, as soon as the lights were turned on in the evening, the song of the birds commenced all over the hall. The effect must have been quite original.

Significant Figures.

Whilst the anti-motorists have been for ever raving against the terrible dangers of motorcar traffic, those of the community who have taken to the all-conquering wheel have continued to assert from the beginning that, not only is the motor not more dangerous, but actually less so than the horsed car, so that the substitution of motorcars for horse-drawn vehicles would not result, as our opponents assert, in increased danger to the community, but in increasing its safety. Of course, the men of the Highways Protection League and such-like zealots have told us, and continue to tell us, to relate this story to the marines, and beyond our better appreciation of both the motorcar and its limitations and the horse and its limitations, and a more generally intelligent appreciation of the subject, we have had no means of absolutely proving our assertions. This means, however, is now to hand in the shape of the report which has just been published by the London Traffic Branch of the Board of Trade. This deals with the question of street accidents in London during the year 1908, and with the question of London traffic generally, and the figures, I think, prove our contention up to the hilt. In the first place, it is shown that, even at that time—a year ago—the number of motor vehicles in use in London was practically equal to the number of horsed equipages employed,

MY WAY OF THINKING.—Contd.

so that, for the first time in history, the two classes of traffic stood side by side in equal numbers, under absolutely equal conditions of use, and that the most severe, so far as danger to the public is concerned; yet the figures, as regards accidents, tell much more heavily against the horse than against the motor during the period named. There were 108 fatalities due to the horse, as against 98 attributable to motorcars, but, leaving fatal accidents out of the question, when we come to consider accidents other than fatal ones, the difference tells enormously in our favour, for no fewer than 4,620 accidents were chalked up against the horse, whilst only 3,182 are attributable to the motor, from which may be deducted the conclusion that, so far as the safety of the public is concerned, the motorcar is 30 per cent. safer than the horse, although, when an accident does happen, owing, doubtless, to the greater weight and greater speed of the motorcar, the damage is likely to be slightly more severe; and, it must be noted, no allowance whatever has been made for the increased mileage of the motorcar, which is, vehicle for vehicle, at the very least twice that of the older form of conveyance. With these figures of proof at our disposal, we now have an incontrovertible answer to our opponents and a reasonable ground for, if we choose, clamouring, in the interests of the public, for the suppression of the dangerous horse! But motorists do not want to do anything of the kind. They are quite content to let things take their perfectly natural and inevitable course.

Cars at the Elections.

During the election days which have already passed, motorcars have been very much to the fore, and I think I am not stating other than a fact when I say that, had one party confined its "collecting" operations entirely to horsed vehicles and had the other a monopoly of motors, that factor alone would, in 19 cases out of 20, have been sufficient to carry the day. Still, both sides have availed themselves as fully as possible of motor vehicles, the wonderful mobility and celerity of which are of enormous value when much work has to be done in a limited time. I have seen a good many elections now, and I do not recall any in which quainter deductions and more comical charges and counter-charges have been made than has been the case in the present one, and, of course, the motor has come in for its share. Thus, for instance, in Coventry and elsewhere both sides raked the neighbourhood for any and every possible kind of conveyance, and it was held to the detriment of the Tariff Reform candidate that, amongst the cars impressed in his service, was a German one, the hypercritical objectors preferring to ignore the fact that the candidate was not the owner of the cars which were working in his interests, and that equal capital might have been made of the incident by the other side by quoting it as an example of "dumped" goods. Yet it is surprising what a large amount of weight this little incident appeared to carry with the men who mentioned it to me.

Trials and the Bond.

Reference to the Society reminds me of its latest move in connection with the Bond. This much-debated document, which, as my readers will remember, binds all signatories to it not to show at any other exhibitions than those organized, or approved, by the Society, under a heavy penalty, is now to be made to include trials and competitions, that is to say, that the signatories to the Bond bind themselves not only not to show at unapproved exhibitions, but also not to participate in any trials or competitions to which the Society has not given its sanction. This resolution was carried with but little discussion at the recent general meeting, when it came on at the tail-end of a three-hours controversy on the cycle and motor show proposal. I cannot say that I approve of it. Let those members of the Society who want to bind themselves together in regard to trials do so if they wish, but to combine the matter in a bond covering a totally different business is, it appears to me, fundamentally wrong. Because a firm may agree with the policy of the Society upon the show question, they may not be at all in accord with it on the trials and competitions question, and to say to them, as the Society is now doing, "You shall not get the benefits which accrue to Bond-signers at our Show unless you think with us on the other matter," is holding a pistol to their heads, although it must be admitted, as a set-off against this, that the pistol is a less effective weapon than it once was.

The Society has withdrawn from the majority of its Bond-signers the quid pro quo which was formerly given by the Bond, by depriving them at any rate the "first-ballot firms"—of their equal chance of selection of a good position and giving all the plums to the big houses, whilst it has also, by its action, so completely alienated the members of the commercial vehicle section that it is not merely doubtful, but quite certain that, except where firms have large pleasure-car interests and are amongst the favoured ones, not a single member of the section will sign the Bond at all!

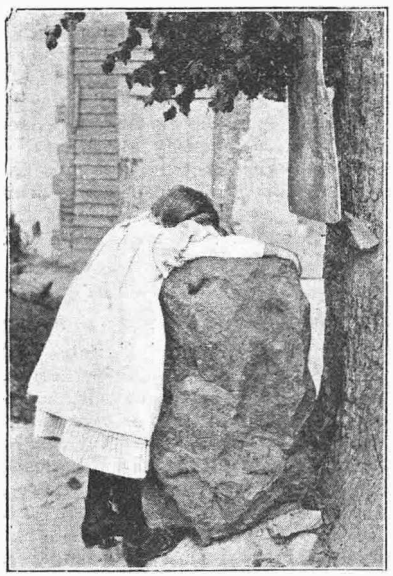
How it is Done.

I read with much interest "Automan's" notes last week in reference to his experience with an American car, and, in commenting upon the price of the vehicle, he inquired how it was done. Well, I think the explanation is not a difficult one. In the first place, the total weight of the car—1,200 lb.—was, approximately, half the weight of the average English vehicle of the same horse-power, so that, all other things being equal, there is 50 per cent. saving, right away, in cost of material, and with less material to work upon, the labour of working it should be reduced, though, of course, not in the same proportion. But the greatest factors in enabling such prices to be arrived at are to be found in the readiness of the American public to accept a car in the design of which manufacturing considerations rather than conventionality of ideas have had chief sway, and more particularly still, in the fact of the large output, which latter factor is directly the result of the immensity of the American home markets and of the American fiscal system. As I have frequently pointed out here, the motor trade of this country, and, indeed, of Europe as a whole, is but a fraction of that of the United States, where considerably over 100,000 cars—on the most conservative reckoning—will be produced this season. Protected by a 45 per cent. duty, with an enormous home demand, the American capitalist and manufacturer has had every encouragement to put capital into the industry and organize for production on a large scale, and, as all who are acquainted with mechanical production know, when any article can be produced in large quantities, an outlay of plant for rapid productive work becomes possible and results in an enormous reduction in labour costs.

The Right Hon. John Burns touring his constituency by taxicab.

THINGS ABOUT.

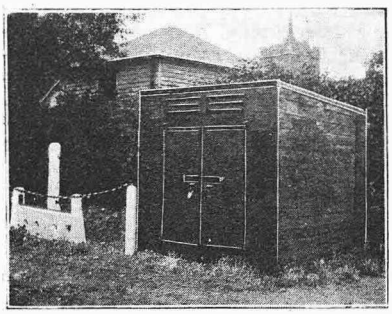
By blowing down one of the sinuous cavities with which this stone—which is at Kingston Lisle, Berks.—is honeycombed, the deep tone of a fog-horn is produced, which can be plainly heard



The blowing stone

for six miles round. Its original purpose was for summoning the people together for battle in the days of King Alfred.

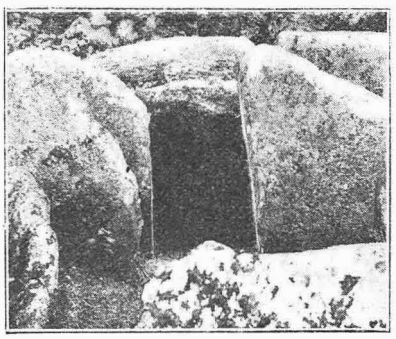
The little village of Rayden, Essex, possesses a double-barrelled curiosity in the form of an old lock-up and the village stocks. The lock-up is a small



Stocks and lock-up.

wooden structure about the size of a small motorcar shed, the only ingress for light being through slits over the door. The stocks are in excellent preservation, and it is interesting to learn that both the lock-up and stocks are painted at intervals in order to preserve them.

This remarkable cromlech, which stands in a clump of beech and fir trees on the White Horse Hill, near Uffington, consists of a large, flat stone laid horizontally on several smaller ones. Here it was, as recorded in "Kenilworth," that the mysterious smith was wont, for a fee of 6d., to shoe the horses of travellers over the wild hills. The smith himself was never seen. The arrangement was that the fee and the horse



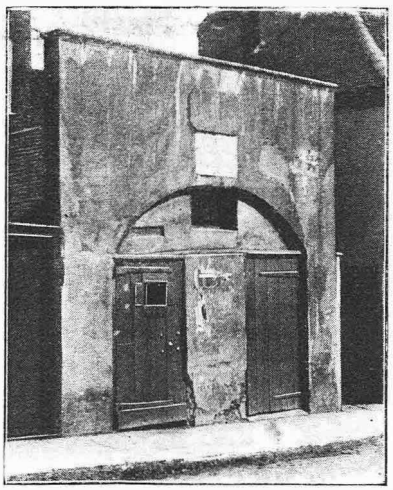
Wayland smith's cave.

should be left at the entrance to the cave, and that the rider should return later, when he would find the animal shod. The fee was invariably accepted. The smith's real name was Lancelot Wayland.

The Constable Country is every year becoming better known to motorists, on account of its picturesque scenery and its associations with the great painter who has immortalized many of its beauty spots, which are, even now, easily recognizable. The old Water Mill at Slatford,

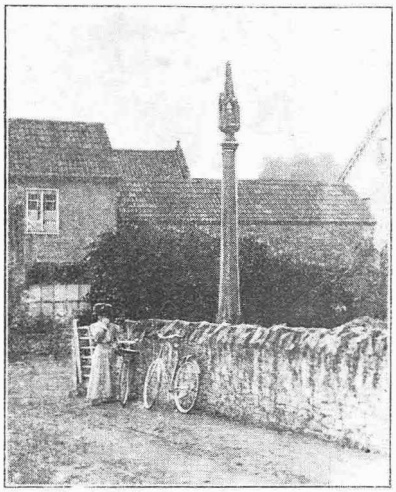
Slatford Mill.

the subject of one of Constable's paintings, to be seen at the National Gallery, is practically in the same condition as when the picture was painted over a hundred years ago.



A quaint lock-up.

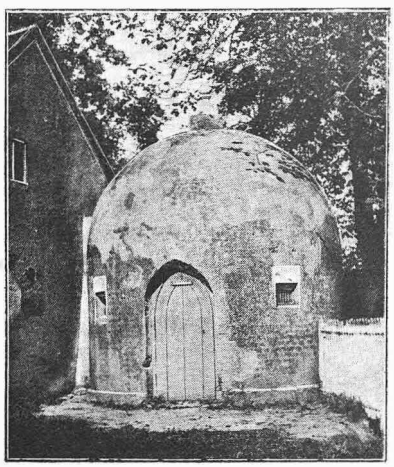
In a narrow street leading out of the main thoroughfare of Ewell is an old watch house, used at one time for law breakers. It is said that on one occasion the bars in the grating of the door



Village Cross, Wedmore.

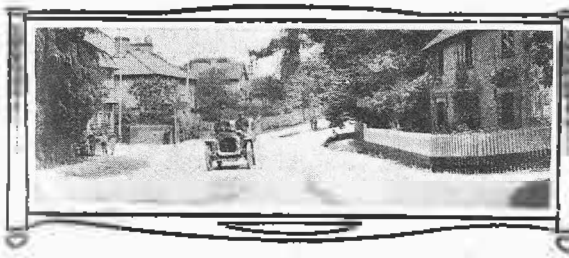
were broken by some friends of a man who was incarcerated in the watch house, and through the hole thus made strong drink was passed to the prisoner.

The village cross at Wedmore, in Somerset, is situated in a cottage garden. Accounts differ as to how it got there, and, presumably, the wall was built round the cross, and not the cross built inside the wall. King Alfred met and concluded peace with the Danes near where the cross now stands.



Shenley's round house prison.

At Shenley, Herts., is one of the few remaining round houses, in which in olden times malefactors were incarcerated prior to being haled before the nearest magistrate. Over the two small gratings, which admit a negligible amount of light and the minimum of air, are two inscriptions, viz., "Be sober, be vigilant," and "Do well and fear not," the effect of which on malefactors is not known.



OTHER PEOPLES VIEWS

NOTE.—These columns are set apart for the discussion of motor topics by bona-fide readers of THE MOTOR, and trade letters containing veiled advertisements are not admitted. The Editors are not responsible for opinions expressed by correspondents in this section. Correspondents are asked to keep their letters as short as possible.

Strange Tyre Valve Defect.

I shall be glad to know if any of your readers have had a similar experience to my own, and also if anyone can explain the reason of such an extraordinary occurrence.

The air tubes of my back wheels are fitted with the usual rubber plug valve—I inflate with a "sparklet" inflator to a pressure of at least 90 lb. When the inflator is taken off there is absolutely no sound of an air leak, showing that the plug is properly seated, and with the dust cap screwed on a test with water shows the valve to be quite perfect.

In about a fortnight's time the tyre shows signs of becoming slack, and on taking off the small dust cap the air comes hissing out at a great rate, showing that for some reason the rubber plug has got off its seating. Now why should that plug come off its seating? It has a pressure of 90 lb. behind it. It has not happened once, but repeatedly, and always in the two back tyres; I have no trouble with the front.

When coming over for the Christmas holidays, I brought over one of the inner tubes (a Palmer) and explained my trouble to the Palmer Tyre Co. They were most obliging and had the tube tested. It proved to be quite sound. They had never before had a similar complaint and were quite unable to explain it. They, however, supplied me free of charge with two new valves having a metal plug, the stem of which is threaded and the act of screwing on the dust cap draws this plug on to its seating, so that it is impossible for it to shift, and which they hope will cure the trouble, and I hope so too.

If I see that others have experienced the same trouble I will let you know for their benefit how I fare with the metal plug when I have had time to give it a fair test.

A. J. Trace.

The Hague, Holland.

Improving Old Type Engine.

I have a two-cylinder 10-12 h.p. Alldays car which is 3½ years old, and I shall be glad if some fellow motorists can give me any tips as to how to get the best results from this engine. One difficulty I experience is in making the valve dome covers a gas-tight joint. I have tried all kinds of washers, and have had the faces trued up on a lathe.

I also find the petrol consumption about 12 miles to the gallon. I have bought a set of new toggle weights for the carburetter, also a new needle valve. The above is a Brown and Barlow type. How can I reduce the consumption? Would it be advisable to lengthen the outlet pipe from the exhaust box with a view to making the engine quieter? The compression is fairly good, as the engine was overhauled some few months ago, but still it lacks power on the least hill.

Any tips as to obtaining the best results from these engines will be greatly appreciated by J.C.

The "Phanomobile."

Have any of your readers had any experience of this small front-driving car? If so, I would be very much obliged to learn same, as I have in view the purchase of one. I am restricted in width of entrance to my premises, and none of the standard makes of cars is of suitable dimensions. Lyn.

Alkaline Solutions and Carbon Deposits.

Mr. Brooker completely misquotes me, and I am quite sure that he does so unintentionally. My words were:—"My experience shows that if an alkaline solution, preferably containing a little fatty matter, such as soap, is brought into contact with carbon deposit at high temperatures, the deposit is disintegrated." Mr. Brooker's words are "that a little fatty matter, when brought into contact with carbon deposit at high temperatures, disintegrates it."

Mr. Brooker as a chemist will appreciate the radical difference between an alkaline solution containing soap and a fatty oil. For instance, the former is a fine cleansing medium for domestic purposes, but you would not expect a maid to clean a floor with fatty oil. Indeed, it would leave a horrible mess, and I believe that a fatty oil is an equally inappropriate cleansing medium if used in an internal-combustion engine.

My theory as to the action of the alkali and soap is that they partly dissolve the thickened oil which is present as a binding medium in the deposit, and such binding material being removed the deposit breaks up more easily. If carbon deposit be heated in a flask with warm water there is little or no change, but in the presence of an alkaline soap solution the disintegration is marked.

Next as to Mr. Shippey. I have yet to learn that alkalies (even the strongest) attack metals in the manner suggested by that gentleman. For use as a decarbonizer one would employ a solution of common washing soda (sodium carbonate), which is far less "caustic and corrosive" than caustic soda (sodium hydrate), and yet this latter is packed and stored for very long periods in thin iron drums without corrosion. A solution of carbonate of soda and soft soap is used in many large factories in metal-cutting work, and is found to prevent the rusting which rapidly occurs in the absence of the alkali.

Mr. Shippey advocates the prevention of carbon deposits as being better than its cure in which of course we all agree with him, but at present, unfortunately, this seems to be impossible, for any oilman who says that he has an oil that will not carbonize at all is handling the truth in such a careless manner that in the long run his statement will not redound to his credit. Therefore the search for the cure seems imperative, and I hope Mr. Shippey may, for the benefit of motorists, submit his decarbonizer to the R.A.C. for a trial. The success of such a trial would mean a great advertisement, and although I and some of my friends have been unsuccessful in the use of this material, I can only hope that, as Mr. Shippey seems to have such confidence in its value, such a trial may prove that we were wrong in our decisions in the matter.

A. Duckham.

I have not seen the original suggestion of Mr. Duckham to use alkaline solutions for removal of these (mentioned in Mr. A. Shippey's letter on page 916), but I quite fail to see how alkaline solutions can act on carbon, true carbon being one of the most inert bodies; chemically speaking, if the deposit is merely half-burnt oil mixed with soot, alkaline solutions might do some good, but probably paraffin would be better, although I know that paraffin does not have any effect on what most motorists call carbon.

Alkaline solutions (such as caustic soda or potash) do

O.P.V.—Contd.

not, as a rule, attack iron to any extent, and only act slowly on copper and brass; there would, therefore, be no real danger in their use—such as Mr. Shippey suggests—although they would most likely do no good.

RUSSELL G. PELLY, F.I.C.

Cleaning Radiators: Effect of Acid on Copper, Iron, Etc.

In THE MOTOR for 11th January ("O.P.V.," page 914) your correspondent, Mr. Duckham, under the heading "Cleaning Radiators," says it is "not safe to use a mineral acid, because of its very rapid action on metals, especially those containing copper, such as brass, gun-metal, etc.," whilst the editorial note to this letter states "that badly-furred cylinder jackets can be safely cleaned with dilute hydrochloric acid if the brass connections are taken off."

Now, the most suitable mineral acid for removing incrustations of salts deposited from water is certainly hydrochloric acid (sulphuric acid is unsuitable, as it forms a coating of insoluble calcium sulphate on the surface of the incrustation, and so prevents further rapid action). Every chemist knows—or can easily find by reference to books—that hydrochloric acid does not act readily on copper (or brass, etc.), but acts readily on iron, zinc, and aluminium; however, to make quite sure of the point, I tried the action of a mixture of one volume of commercial hydrochloric acid ("spirits of salt," obtainable at any oil and colour shop) with four volumes of water at boiling point for one hour on (1) a piece of copper, (2) a piece of brass, (3) a piece of solder, placed together in the same vessel, with the result that neither the copper nor the brass lost weight appreciably, whilst the solder had been slowly acted on (it lost about 3 per cent. in weight, but was only very slightly etched). This is only a rough experiment, but should be quite sufficient for the purpose.

Now, considering that the acid used in the above experiment was stronger than would be required for cleaning out radiators and jackets, it is obvious that there is very little to be feared from its action on copper (or its common alloys) or the solder joints; iron is much more readily attacked, but, as the cylinder jackets are very thick and probably well protected with a coat of rust, they are not at all likely to be affected.

Hydrochloric acid is constantly used in chemical laboratories to clean out copper and other water baths without any ill-effects.

For cleaning out radiators, etc., probably a mixture of about one volume of hydrochloric acid to eight volumes of water would be convenient; it should be allowed to act until the deposit is thoroughly dissolved, as, if loosened flakes of incrustation are allowed to remain in pipes or water system blockage may occur later; the safest plan would be to give the radiator, etc., one dose of acid for some time with engine running, then run out, and put in some fresh acid, and if there is still any amount of "fizzing" and frothing (due to action of acid on carbonates and evolution of carbon dioxide gas) to go on until this ceases. The acid acts on zinc, and, therefore, cannot be mixed in galvanized pails, and on aluminium, and should, therefore, be kept away from parts of engines made from these metals; otherwise, precautions such as are generally used in handling acids must be observed. All acid must, of course, be washed out afterwards with great care (if the washing water, poured on to some washing soda, causes evolution of gas, it is still acid); some washing soda added to the water will soon neutralize any acid, but the salt formed had better be washed out.

The use of acetic acid (suggested by Mr. Duckham) is, of course, quite sound, but acetic acid is, weight for weight, greatly inferior to hydrochloric acid; it is more than double the price (for acid of same strength), and I question if it can be readily obtained at an oil shop as can hydrochloric acid. As for vinegar, which only contains 5 to 6 per cent. of acetic acid, this must, indeed, be a "dernier ressort."

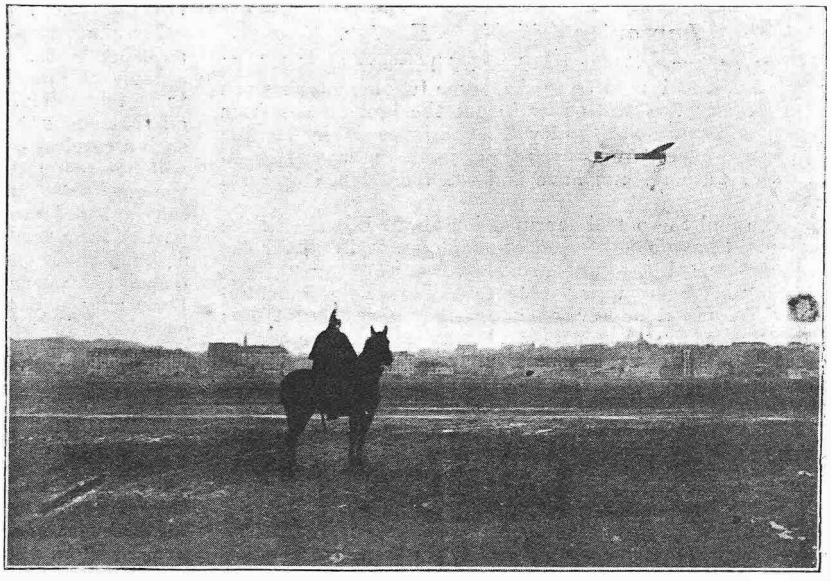
RUSSELL G. PELLY, F.I.C.

Piston Valve Mechanism in the Hewitt Engine.

Mr. Hewitt's time is so fully occupied that he cannot at present enter into any controversy, and I take the liberty of replying to your correspondent, Mr. Phillips, who asks for information in regard to what your other correspondent "Engineer" terms the "extraordinary claim that the valves help to drive the engine." This claim seems to me so self-evident that I can only attribute Engineer's" remarks to his imperfect comprehension of the mechanism of this engine. Undoubtedly the piston valves help to drive the engine, because they enter into the same combustion head as the main piston, and they are acted on throughout the stroke by the same pressure as the main piston.

You might have any number of pistons entering a common combustion head and they would all give power providing the cranks were in the right positions to receive the impulse. In the last show at Olympia, an excellent illustration of this was shown in the simple and ingenious Valveless two-stroke engine, which has two cylinders uniting in a common combustion head, with two pistons driving on two separate cranks inter-connected by gear wheels. Each of these pistons undoubtedly gives power, and the power is equal to the pressure exerted on both cranks. A simple illustration of this principle can be made by taking an ordinary basin to represent the combustion head. Fill it with water, then take three or any number of corks to represent pistons, immerse the corks to the same depth, and on releasing them they will rise simultaneously, proving that the pressure is equal on all the corks.

It may be as well to clear up another elementary difficulty of "Engineer" in regard to the exhaust ports of this engine. The area of the exhaust ports is the depth × by the width × by the number of ports. In the 16 h.p. engine the exhaust ports of each cylinder equal in area an exhaust pipe 1¾ in. diameter, rather a large one for this size of engine. If necessary the area of the ports could be made equal to the area of the cylinder, but as we have run the engine at 3,300 revolutions per minute,



The above photo depicting a flight by Jacques Balsan on a Bleriot monoplane at Issy les Moulineaux almost suggests a future academy picture—"The Outposts of the Army."

O.P.V.—Contd.

and the beats of the exhaust were as clear and distinct as when running at 1,000 revolutions, we consider that the area we have adopted is sufficient.

It is impossible in the limited space at my disposal to give a full description of this engine, but I hope I have been able to satisfy Mr. Phillips's desire for information.

W. J Davy, Assoc. M.Inst.C.E.

Davy Engineering, Ltd.,
9, Laurence Pountney Hill, London, E.C.

The Construction of a Glider.

May I offer a few words of criticism upon the design of the glider described by your contributor "L.G.D.," based upon a little practical experience I have gained upon the subject? In the first place, in my opinion, the supporting surface provided is quite inadequate for the weight. The value of the lift of the elevating plane is negligible, and this apparently leaves the lifting surface at 120 square feet with a total weight of, say, 188 lb., something over 1½ lb. to the square foot, or about double what I should consider practicable (viz., ¾ lb. to the square foot).

I think that this 1½ lb. to the square foot is actually in excess of what Lilienthal allowed in his latest machines, and gliding with the machine constructed would only be possible with the same daring risks taken by that (as your correspondent rightly terms him) distinguished pioneer, who launched his gliders, it will be recollected, from the top of a special tower at the summit of his artificial hill; the speed the glider would attain would be terrific and the gliding angle large—both elements of considerable risk. I believe that gliding is a sport which can be as exhilarating and enjoyable as ski-ing, and comparatively safe with plenty of wing-spread and full control. The machine should take the air in a light breeze upon such a slope as may be found upon any downs (say 1 in 8), and this is only possible with a weight to the square foot even less than I have mentioned.

With my first glider I found that a wing-spread of 210 square feet with a tail surface of 50 square feet, total 260 square feet, was inadequate for a total weight of 260 lb. I am at present at work upon a machine, fully controlled with flexible wing tips, elevator, and rudder, having a surface area of 330 square feet to the main foils (exclusive of elevator, which has another 40 square feet).

The design of the machine described by your contributor is ingenious, but there is one point of the highest importance in the construction which does not seem emphasized. I refer to the juncture of the wire stays from the undersides of the wings with the skids or runners. Should your correspondent succeed in "getting up" the strain at this point will be dangerously great, and failure will probably cause an upward collapse of the wings and violent precipitation to the ground. It was failure of a wooden stretcher keeping the wings of their monoplanes (glider and flier respectively) at their flat angles which caused this upward collapse in both cases, and cost poor Pilcher and Delagrange their lives.

The glider forms of design possible with the biplane at present allows both the safest form of construction and greatest wing-spread for weight.

Horace W. H. Vaughan.

Economy in Tyres.

I am much interested in "A.E.W.'s" remarks re economy in motor tyres in your issue of the 11th inst., and I should like to know very much how he manages to get the cover, of which the beads are removed, to lie smoothly inside the other cover. There are bound to be wrinkles when you put a 760 by 90 cover into a 760 by 90 cover or by putting any size of cover into a corresponding size of cover.

R. Martin.

Why I Bought a Foreign Motorcar.

I can scarcely understand the object of the effusion from a "Private Manufacturer" which appeared in a recent issue. Possibly, as the postscript indicates, it is a political essay in the interests of Tariff Reform; but, why any English manufacturer should post the letter up in his works is not clear, except, perhaps, as an example of doubtful grammar and of the lack of ordinary business instincts which "P.M." displays. There may, however, be more in it than meets the eye. Perhaps "P.M." is an exporter of goods to the country from which his foreign motorcar comes, and on the economic principle that exports are paid for by imports he hopes to get the car with the least possible expense to himself. If, on the other hand, the letter is meant as a serious contribution from one who has seen a German bogey, I hope "P.M" has followed his argument to its logical conclusion and has not given any English carrying agency or distributing house an opportunity of sharing in the profits which his patriotism decrees shall go to the foreigner.

The Board of Trade returns for 1909 indicate a distinct revival in the British motor industry, so much so that I was almost tempted to invest in some of its shares. But "P.M.'s" letter has come as a timely warning, and I must make haste to find a foreign equivalent. As your share list shows that they all stand at a considerable discount there should be no difficulty in finding a bargain (?) Let me recommend these as a suitable outlet for "P.M.'s" superfluous cash.

British for the Briton.

Canal Roads.

I read with interest the recent article on this subject, and in your last issue I notice a letter in "O.P.V." columns signed (strangely enough) with the pseudonym "Practical." The trouble with your correspondent who signs himself thus appears to be the increased point-to-point distance of a canal, which, as he points out, and as everyone knows, is in excess of a direct course. This defect was admitted in the article, but the author said that it was not so bad as commonly imagined, and apparently his remark was more than justified, as "Practical" goes on to speak of, having to travel anything from 50 per cent. to 150 per cent. more by canal than on the ordinary high road. Defend us from our friends. What a figure—150 per cent.! Just picture it. Imagine two towns, 100 miles apart by road, and also connected by a canal. Merchandize sent by the canal would have to travel 250 miles, instead of only 100 miles, according to "Practical's" figures!

Of course, the idiosyncrasy of using such ridiculously exaggerated figures as a foundation for an argument will be apparent to everyone, although the combination of the subject matter of the letter and the pseudonym adopted by the writer certainly has the merit of incipient wit.

Really Practical.

Graphite Lubricant.

Referring to the letter from your correspondent "W.H.M." in your issue of 11th inst., I think that the inquiry must refer to the new lubricant, which goes by the name of "Oildag," and which I find signifies oil with deflocculated Acheson graphite in permanent suspension.

With the utmost respect to your editorial postscript, it is only fair to state that it is claimed for this lubricant that it has at least three features in advance of anything else upon the market. It is absolutely gritless, being so fine that it will pass through filter paper; it is almost absolutely pure, being over 99.9 per cent.; it will remain permanently suspended in oil, and will not, therefore, clog oil feeders or pipes.

Wm. Guthrie.

Clayton House, South Gosforth.

Peculiar Fault in Twin-cylinder Engine.

Will any of your readers offer an opinion as to the cause of the following? I have an Aster engine, twin-cylinder, pistons working up and down together. By taking out one sparking plug the other cylinder works well, and if I replace the plug, take out the other, that cylinder also works well. On stopping the trembler of coil, by placing finger on it, the back cylinder will not work, but by the stopping of other trembler the front cylinder works and pulls back cylinder, that is to say they will work separately but not together. The carburetter is a hand-controlled Longuemare, and seems in order; the ignition also. The silencer is quite clear.

J. T.

O.P.V.—Contd.

Co-operation and Clubs.

I have carefully read Mr. Sturmey's article against co-operative trading, and the reply of "Squeezed" in favour of such trading. I frankly must say that, in my opinion, a club, qua club, should not be mixed up with trading. Clubs exist for a totally different purpose; but as members of motor clubs are presumably all motorists, I submit that a club committee is not only within its rights, but is acting in the best interest of its members, be they makers or private motorists, in drawing their attention to any movement that tends to reduce the cost of buying and running a motorcar, for anything that tends to reduce the initial outlay and the expenses regularly incurred can but induce the many, who are at present hesitating, to become car owners and so add largely to the prosperity of the whole trade.

It is simply ridiculous to style legitimate co-operative societies—formed for the purpose of thus aiding motorists and incidentally of benefiting the trade-price cutters, and, speaking with knowledge as chairman of one such society, I can definitely state that prices are not cut. Members of that society simply receive the profits earned from their own purchases, after deduction of working expenses, which include the remuneration of the management, and if, as is the case with this co-operative society, its members have received a return equal to 13 per cent. on their total purchases in the year (such purchases including not only accessories, but likewise motorcars, insurances, and such like), I think I may claim that the society has already accomplished something for the benefit of the industry.

The motor trader is generally stocked up with tyres and many other goods by manufacturers, and is therefore able to trade on comparatively small capital, and is in this respect at an advantage compared with the motorists' co-operative societies, and if the latter are able to make a big return to the members after meeting expenses and remunerating the management, it stands to reason that the ordinary motor trader must either be making unduly large profits or is conducting his business on unbusinesslike lines. In either case the motorists suffer—small blame to them, therefore, if they support the co-operative society conducted on modern business methods; and if the time comes, as I believe it will, when motor traders change their tactics, they likewise will find their trade increase by leaps and bounds, if only by reason of the increasing demand, and they perhaps will not then forget that they owe some gratitude to the motorists' co-operative societies for having shown them the road to prosperity.

D. C. Defries.

Taxation.

I beg hereby to exemplify a case of what I consider the extreme injustice of taxation of motors, hoping that some representative body of motorists will bring up such cases in order that the law may be amended on the taxation being readjusted. A lady resident here in Gloucestershire received delivery of her car, for which the annual taxation is £4 4s., on 20th November, 1909. She has been called upon now to pay a tax of £3 3s. for the one month and ten days of the year 1909!

Why should three-quarters of the tax be payable because the car happens to be purchased in the latter quarter of the year? Can nothing be done? F.H.

[The tax chargeable is half, viz., £2 2s.—Eds.]

English v. Foreign Motoring Terms.

Might not the French and German terms so much used now in motor phraseology be done away with, and English terms solely used? I shall in future only use the word "Motrician" in place of "Chauffeur." Further, I want to see English standard measure used in place of the foreign system. There is too much of this foreign business connected with motoring. True Britton.

[Can our correspondent suggest a short English word conveying the same meaning as "chassis"?—Eds.]

B10

The Wright Aeroplane Patents.

In reply to "Weno's" letter in your last issue, I must controvert his allegation that I mis-stated the scope of the invention contained in claim 6 of the Wright's patent No. 2,913 of 1909. I consider that Boulton's explanation at the top of page 9 of his patent No. 392 of 1868 can be read as aiming at what "Weno" calls the "novel principle of the Wrights." Here are Boulton's words:

> "Vanes acted on by self-acting mechanism of a kind similar to that above described may also be used when desired for keeping the vessel in a fixed course, both vertically and horizontally."

"The fixed course" is exactly what the Wright brothers submit, and is their vertical rudder not a vane? And Boulton's self-acting mechanism was controlled and operated by a pendulum, for such, I take it, was the weight on a rope as he described. Where is my misstatement?

It would be of little interest to readers of The Motor to have the full arguments anent the Wright patents set out. In my article I wished to show that the Wright patents do not interfere with any principle that other aviators have yet shown any desire to use (excepting the wing-warping of one type of Blériot). I did not argue my points as fully, perhaps, as "Weno" would like, but I hope I have now satisfied him that there is very good ground for stating that "one of their very latest claims, made in a 1909 patent, seems to have been clearly anticipated." With the permission of the Editors, I shall be pleased to reply to any other points that "Weno" may raise, but I consider it unnecessary for me to develop more fully here the arguments of my article except on that ground.

Just prior to the publication of my article, but too late to refer to the matter, the injunctions granted to the Wrights against Paulhan and Curtiss were suspended by the Court at Buffalo. This is very interesting, because in Paulhan's Farman machine the wing-flaps and rear vertical rudder are controlled by a single lever, which at first seem blatantly to infringe one of the Wrights' claims for a "combination" of those two controls. The Wrights, however, claim this combination in various forms only with the aid either of a fixed vertical rudder or a front adjustable rudder, and the Farman machine has neither of these. Nemo.

Canal Roads.

With respect to your most interesting article on the making of roads alongside canals, the scheme is very enticing. The disadvantage of the winding and indirect route followed by the secondary systems would be compensated by the excellent scenery often met on such, as with each bend the view changes, and where a canal winds there will be found the hills it seeks to avoid. This I well remember, having skated from Preston to Kendal on the Lancaster canal, a two days' run, and the most enjoyable skating I ever had.

One great difficulty appears to be the little hump-backed bridges already mentioned, as the towpath under these is only just wide enough to allow a horse to pass, therefore the road would have to make a detour round the bridge and cross at right angles the road which the bridge carries. As the bridges are very frequent, the expense of a gatekeeper at each, to carry out the system for keeping cattle off the road, would be serious, therefore I think the scheme would have a much better chance of maturing if the road were to be made for ordinary traffic and not as a motor road alone.

If it is to be a Government undertaking, then the money will be found in the usual way, by taxation and not by motorists only.

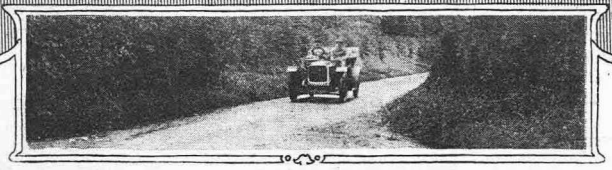
S.H.B.

Enamel to Resist Heat.

Can any reader recommend me a dark green and a white enamel that will stand a temperature of 212 degrees? I want to use it without storing.

Enamel.

INFORMATION BUREAU



SPECIAL NOTICE.

We are at all times pleased to answer any queries put to us by our readers, or to receive correspondence from them upon any motor topic. In consequence of the large number of letters received, however, we must insist upon the following simple rules being adhered to:—

1. Plain writing. Type-writing for preference.

2. All letters to be written on one side of the paper only.

3. Questions to be clear, terse, and to the point, without tedious preamble.

4. Should an immediate reply be required, an envelope must be enclosed bearing a penny stamp, and the name and full address of the sender. NOT a stamped undirected envelope.

5. Questions cannot be answered on the telephone.

J.C.—The fitting of a clutch stop or brake pad to press against the clutch cone on declutching will prevent the clutch shaft from spinning and should render gear changing much easier.

E.H.—It is probable that the ignition timing of the engine has been altered so that it cannot be retarded as much as formerly. Full directions on timing are given in the "Motor Manual."

G.B.—The suggested idea should be put into practical form, tested, and patented. You might then send us along a short, concise description, with a line sketch illustrating it.

J.H.C.—We refer you to our issue 4th January, page 886, in which appears a letter dealing with the preparation. We are unable to express a personal opinion about it.

W.W.—It very often happens that one of the rear wheels actually reverses on applying the foot brake; it is not by any means an optical illusion. The cause is the differential acting as a reversing gear.

W.P.—(1) The turbine-dynamo charging apparatus works satisfactorily, providing you have a good pressure of water available. (2) Remove as much of the rust from the edges of the covers as possible by brushing and applying petrol. The rims should be well cleaned afterwards and varnished. Rust is very destructive to the tyre fabric, and must be prevented from forming as much as possible by periodical revarnishing or painting the rims.

Material for Friction-drive Discs.

W.C.O.—Q.—I have a 10 h.p. car, friction drive, the friction wheel consisting of large leather (compressed) discs bolted together, bearing on the smooth face of the engine flywheel. It works well, except on heavy gradients, when it requires very strong pressure on the friction wheel to reduce slipping. I thought of fixing a large fibre disc on the face of the flywheel by countersunk screws, but am doubtful whether fibre would give a good gripping and wearing surface. Do you know of any better material? I noticed some time ago in THE MOTOR that some special composite material had been used successfully in America.

A.—Vulcanized fibre would grip and wear well, but the drawback in using it is it absorbs moisture and swells. Compressed paper is being used a good deal in America for friction-drive cars, and is said to be the most satisfactory material.

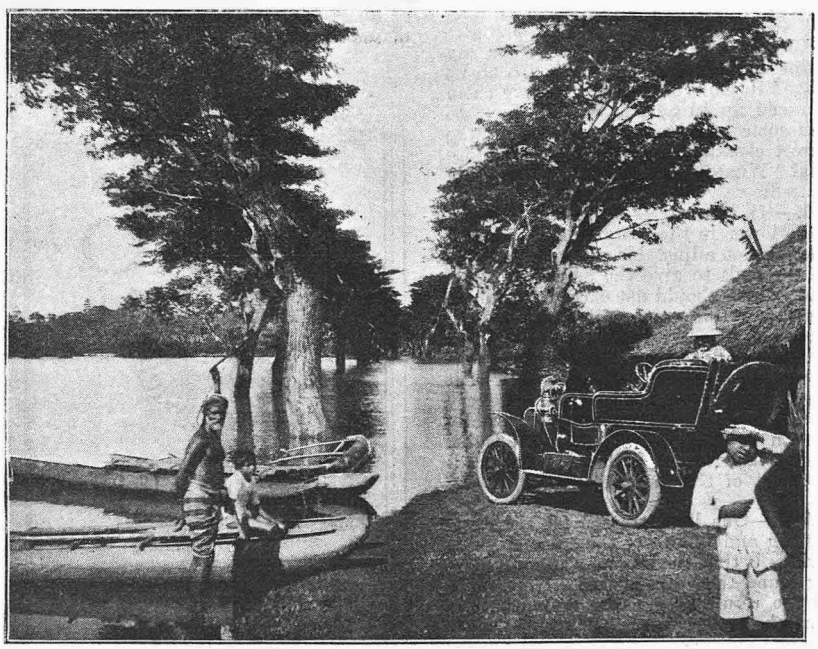
Effect of Damp on a Magneto.

Troubled.—Q.—I have a 1908 Eisemann high-tension magneto, self-contained, with which I have some difficulty. If the car is allowed to stand in a garage during the present cold, damp weather, the magneto seems to lose all power until I take it off the engine and leave it in a warm room for two or three days to become thoroughly dry and warm. Can you or any users of this particular magneto explain the cause of this trouble, and also say if they have experienced any trouble in using this particular type. (2) Are two field magnets powerful enough?

A.—Magnetos, as a rule, do not give much trouble from being in a moist atmosphere. When it does occur, it is due to leakage of the high-tension current at the distributor, but the vulcanite cover is supposed to prevent access of moisture and dust. It would be as well to see that it is fitting perfectly. In any case, it should not be necessary to have to do more than carefully dry the surface of distributor with a clean, soft piece of cloth. The outside of the distributor block should also be well cleaned and dried, as well as the insulation of the sparking-plugs. (2) No reason why two magnets should not suffice. We know several machines with only two.

R.H.—(1) An applicant for a car driving licence must not be less than 17 years of age. (2) Yes, the air-admission device in question is for attaching to inlet pipe.

A.E.—The noise from the bevel gear would probably be a good deal lessened if you keep plenty of thick gear lubricant in the case. The gear, being so much worn, should be renewed as soon as possible.



A view of the flooded Colombo road. The car in the picture is an 8 h.p. Rover, and its owner says this was the only time his car was held up. The water was 8 ft. deep.

BUREAU.—Contd.

Magneto Timing.

G.B.—Q.—(1) Is it usual in present car practice to provide means for advancing and retarding ignition in the case of the high-tension magneto? (2) Is this usually done by arranging to alter the position of the contact breaker, or by adjusting contact breaker and armature in unison, so as to maintain the contact breaking point in the position of maximum magnetic induction?

A.—We estimate that half the number of cars made now have fixed magneto ignition timing; others have the contact rocker connected up to lever for advance. There is no hard-and-fast rule on the matter, but the tendency is to have fixed timing. Practically every magneto now has the advance arranged on the contact breaker. The original Eisemann system is one of the few exceptions in which the relative position of the contact maker and armature is altered, and "maximum" induction position is kept constant. Movable pole pieces have been used to a limited extent for advancing and retarding.

Lessening Noise from Valves.

C.W.E.—Q.—The valves of my 12-16 h.p. four-cylinder car are noisy. I am informed that fitting pieces of vulcanized fibre to the heads of the tappets will remedy this defect. Please advise me on the following:—(1) Is the wear on the fibre likely to be excessive? (2) What thickness of fibre should be employed? (3) How should the fibre be fixed to the tappets? (4) Also, can you tell me a good paint for the rims, which does not become sticky by the heat caused in running, this causing the tyres to adhere?

A.—(1) No, the wear would not be great. In any case, you can easily renew them. (2) Say, 3-16ths in hard fibre. (3) The fibre discs should be tightly pressed into steel caps, which fit on the tappet, and preferably made adjustable. (4) We have found an ordinary slow-drying enamel satisfactory.

Pitted Valves.

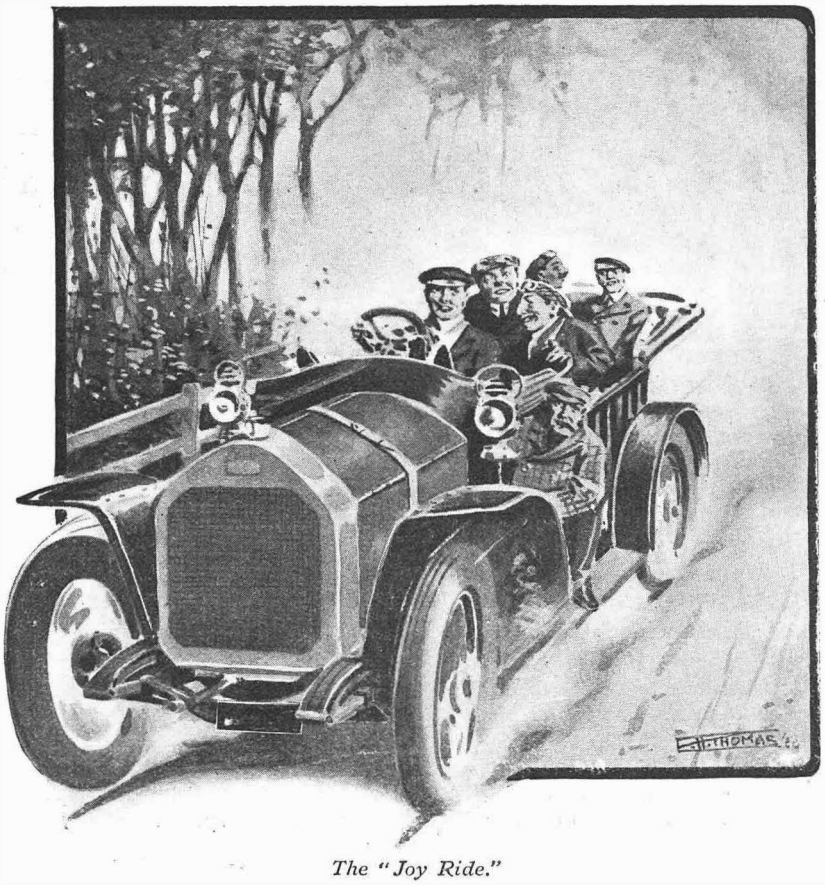
F.J.—Q.—The exhaust valves on my engine are very badly pitted. I shall be obliged if you will tell me if I have them skimmed up in a lathe shall I have to take some off the stems? What is the correct clearance between stem and tappets? What is the method of grinding in needle valve of carburetter?

A.—(1) The valves will come down a shade lower in the seats, and if the tappets are not adjustable you may have to file the ends to give the necessary clearance, which should not exceed 1-32nd in. Less than this even will allow for the expansion of valve stem when it becomes heated. (2) Apply a touch of crocus powder and oil to the valve and twirl it round lightly on its seating. A very small amount of grinding is usually enough to make the valve petrol tight. Excessive grinding will upset the adjustment of the carburetter.

A.H.—One likely reason for the overheating and failure of the exhaust valve springs is that there is no water circulating round the valve pocket. This would be the result of choking up with lime from the water.

Brunham.—If you refer to page 895, issue for 4th January last, you will find some information about the American car you mention.

A26



The "Joy Ride."

A.F.—You ought to be able to get good results with a throttle in place of the exhaust valve control. Your diagram shows that the inlet pipe is too long. Place the carburetter closer to engine, and the throttle at halfway, with the extra air inlet between the throttle and carburetter. There is no reason why the existing radiator should be changed, as it has ample cooling surface. Clean it out well with a strong solution of soda if it does not circulate freely.

G.E.—Go very carefully over all the ignition wiring. Very likely you will find a badly-made joint or a connection loose. As the accumulator coil, plug, and contact maker have been tested and found in perfect order, there is no other reason for the misfiring. With a few lengths of wire you could easily make a temporary wiring circuit, which would prove at once whether the other were faulty or not. Be sure and test the switch connections. Vibration often causes a loose contact here.

G.K.—The subject of storing a car for a period is treated in our Manual (new edition, 1s. 9d.), on page 164. Storing accumulators when out of use, on page 38. Tyres, page 113. Treating coachwork, page 159. The Revenue tax (according to regulations) has now to be paid on the car that is "kept."

W.H.—It does not at all follow that if you use a 6-volt instead of your present 4-volt accumulator, that the running of the engine will be improved. If you have the coil trembler properly adjusted, you should obtain quite an efficient spark with 4 volts, which pressure the coil is made for.

W.H.—The trouble, we have no doubt, is in the carburetter. You will probably find that it is flooding badly, and requires the needle valve carefully grinding in. The excessively rich mixture would explain your difficulty in starting up.

Owing to pressure on our space a large number of replies are unavoidably crowded out. We are always pleased to reply, almost by return of post, to inquiries, when a stamped addressed envelope is enclosed. During the past week we have posted replies to 120 readers.

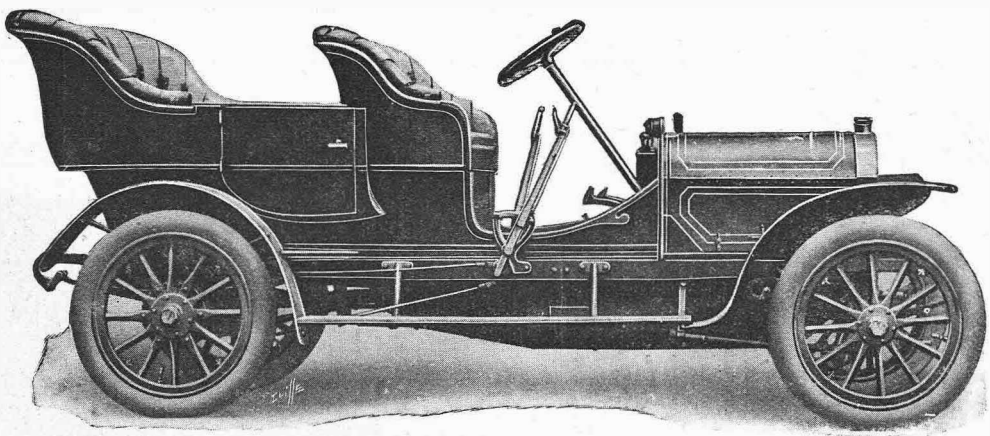
World Famous STAR CARS.

Hill Climbing in Switzerland.

Extract from a letter contributed to THE "AUTOCAR," 15/1/10 by W. ROPE, ESQ.:—

"I consider the Grand Galiber much more severe, and this, carrying the same load, took me all my time to negotiate on low gear, again, without a stop and immediately following the climb of the Col du Lauteret . . . . you must remember that this is the second highest pass in Europe, and my car a small 12-14 h.p. 4 cyl. 1907 Star, with ordinary side-entrance touring body, and with ordinary gears, giving 8, 14 and 27 m.p.h. at 1,000 r.p.m., with 3¼" bore and 4½" stroke. I have reached thirty-five, and generally average twenty to twenty-five m.p.h. on a long run, and one day, coming from Paris, knocked off 250 miles in the course of fourteen hours at the wheel.

Star Cars will be on view at The Edinburgh Show, 28th Jan. to 5th. Feb. Stands Nos. 11 and 34.



15 h.p. STAR CAR, Model de Luxe	... ...	**Price complete**	**£350.**
15 h.p. „ „ Standard Model (as illustrated)	... ...	**„ „**	**£315.**
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12 h.p. „ „ 5 „ „	... ...	**„ „**	**£285.**
Cars from 10 h.p. to 40 h.p.	... ...	**£250 to £700.**	

Write for fully-illustrated and priced Catalogue "B," post free.

THE STAR ENGINEERING CO., LTD., WOLVERHAMPTON.

Sole Selling Rights for the District granted to:—

LONDON.
The Star Motor Agency, Limited,
24, 25, 26, Long Acre, W.C.

NEWCASTLE-ON-TYNE.
George & Jobling.
South Street.
Also at 41, Blackwell Gate, Darlington.

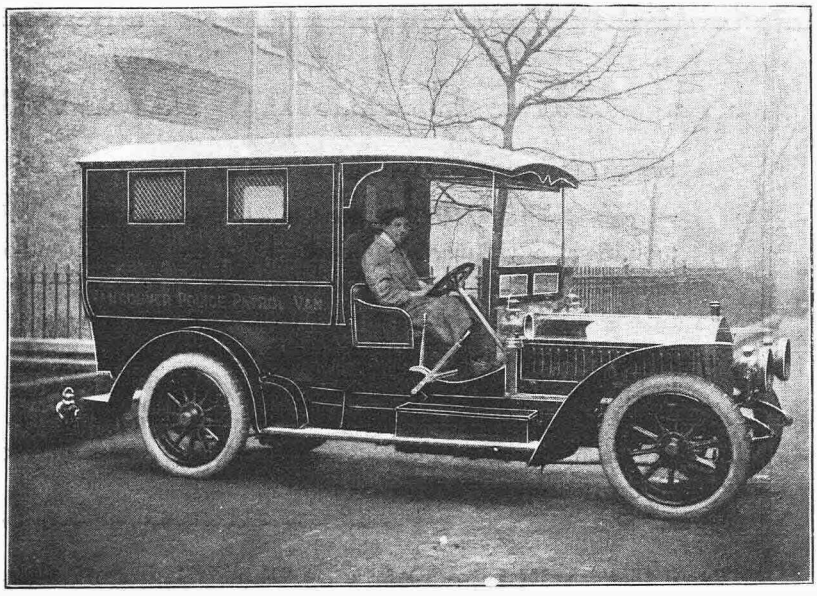
GLASGOW.
Western Motor Co.,
70, Buchanan Street.

WAKEFIELD.
County Motor Co.,
Robin Hood.

MISCELLANEA

A 40 h.p. Six-cylinder Motor Prison Van.

While the British towns at home seem to be even behind Russia in the matter of mechanical transport for the conveyance of prisoners, the Colonies are going ahead. A striking example is given below of how wideawake some of the latter places are, the instances being shown by the illustration of a very smart 40 h.p. six-cylinder Napier prison van and ambulance, supplied to British Columbia, for the service of the authorities in Vancouver. The chassis is of the special Colonial type of six-cylinder Napier, with dual ignition and chain drive. The body is of the type shown, the external dimensions being 7 ft. in length and 5 ft. in width, and 6 ft. 3 in. from roof to floor. Inside there are longitudinal seats at each side accommodating five a-piece, these being finished in black leather, the floor being covered with green linoleum. At the rear a specially large step is fitted which furnishes standing room for an armed guard, an additional guard being seated beside the driver. The body has seven windows of fancy glass for the admittance of daylight, these being strengthened by the addition of steel wire mesh gratings or, perhaps, screens. After dark the interior can be illuminated by electric light. When not employed on police service, the seats inside can be folded (or hinged) up against the sides, and accommodation is thus provided for a recumbent person or a bed. This attractive-looking vehicle is finished in Napier green and black, with plated mountings and gold lettering on the sides. Dunlop detachable rims are fitted to all the wheels, together with 935 by 135 mm. tyres of the same make. The above interesting vehicle left for Vancouver on Monday, the 17th.



A 40 h.p. six-cylinder Napier prison van for British Columbia.

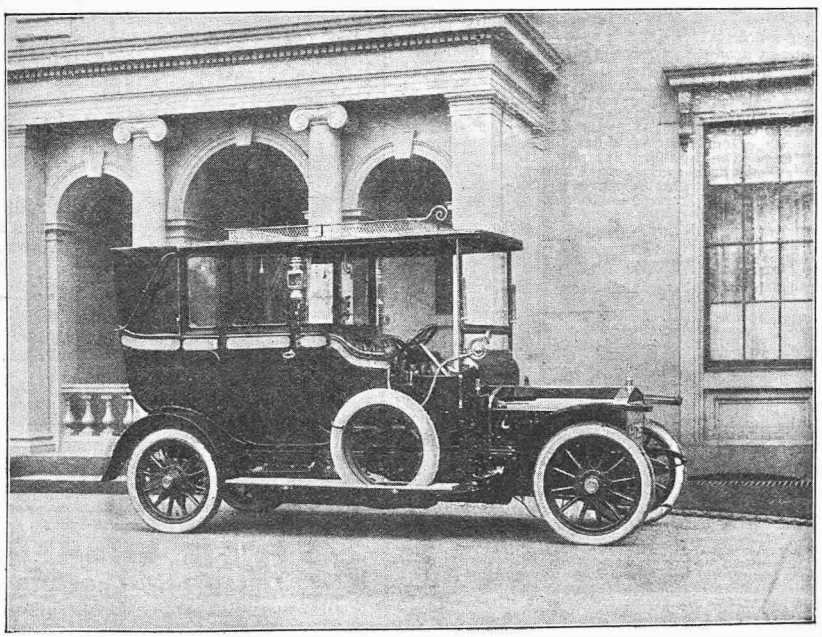
The offices and showrooms in connection with the Théo. Masui Automobiles are now at 162-163, Grosvenor Road, Westminster, S.W., to where all correspondence and inquiries should be addressed.

MISCELLANEA.—Contd.

On Saturday, 11th December, the Automobile Club of Australia held its annual run from Sydney. The weather was glorious, and nearly 40 cars took part in the start at about 2.15. For the A.C.A. the muster was a good one, and everything went off splendidly. The honorary treasurer, Mr. W. C. H. Lippman, invited the entire party to take tea with him at his residence.

At the annual meeting of the above club, which took place a few days earlier at Sydney, a successful year's work was reported. Universal regret was expressed at the death during the year of the club's president, Mr. Samuel Hordern.

Messrs. Rolls-Royce, Ltd., inform us that in the "News of the World" of Sunday, 16th January, there appeared a report of a case at the Central Criminal Court, arising from the death of a roadman, who was, apparently, knocked over by a six-cylinder Rolls-Royce car. The report stated that the driver of the car, in evidence, stated that he had applied the brakes, but they did not act properly, nor did the steering gear. This statement is likely to do damage to the reputation of the Rolls-Royce car, since it would lead readers to believe that the brakes and steering gear of the car were faulty, and failed properly to perform their functions. The accused made no such statement. We have before us the shorthand notes of the evidence, from which it appears that the road surface was admittedly icy, and that what the accused said was that immediately he saw the deceased he altered the direction of the car, but that the wheels would not hold on the road and the car skidded as soon as he applied the brakes. Apart from the evidence of the accused, the evidence of Inspector Joseph Elliott, of the Public Carriage Office, Scotland Yard, was to the effect that he had examined the Rolls-Royce car after the accident, and that he had examined the brakes and steering gear particularly, and had found that they were in good order.



A handsome six-cylinder Vulcan car supplied to Frank Wilson, Esq., Fulwood Park, Liverpool.

The Motor Sale and Exchange Section.

NOTICES.

"THE MOTOR" is published in London every Tuesday morning.
Head Offices, 7, 9, 11, 13 and 15, ROSEBERY AVENUE, LONDON, E.C.
Telephone No. 5292 Holborn (four lines).
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Telephone No. 1839 Birmingham.
Telegrams: "Presswork, Birmingham."

SUBSCRIPTIONS.

"THE MOTOR" will be mailed regularly at the following rates:—

	12ms.	6ms.	3ms.
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Canada	8s. 8d.	4s. 4d.	2s. 2d.
Other Colonies and Foreign Countries	16s. 0d.	8s. 0d.	4s. 0d.

REMITTANCES.—Postal Orders, cheques, etc., should be crossed and made payable to "Temple Press Limited." All letters regarding subscriptions must be addressed to "The Manager."

EDITORIAL.—All Editorial Communications and copy must be addressed to "The Editors," and must reach the office not later than first post Saturday morning. If stamps are enclosed with drawings or MSS. which are not considered suitable, same will be returned, but the Editors do not hold themselves responsible for safe keeping or safe return of anything submitted for their consideration.

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ADVERTISEMENTS.

Instructions, matter and passed proofs for advertisements of all kinds must reach this office by WEDNESDAY MORNING, FIRST POST, to ensure insertion in the following Tuesday's issue.

Advertisements of Motorcars, Motorcycles, Accessories, Sundries, etc., from private sellers and buyers are inserted in the "Sale and Exchange" Columns at the rate of

12 WORDS FOR 1/- (Minimum)

and One Penny for each additional Word.

Advertisements from persons engaged in trading in the articles advertised are accepted at the rate of

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and Twopence for each additional Word.

All words in name and address are charged for.

Advertisements of Petrol Stores, etc., and Hotels and Resorts, are inserted at the rate of

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and One Penny for each additional Word, with 10 per cent. discount for series of 26, and 20 per cent. for 52 insertions. Cash with order.

The object of the "Sale and Exchange" columns is to assist private persons in procuring or disposing of motorcars, motorcycles, accessories, or other articles of personal property. Business or Trade Advertisements are accepted, but are designated as such. Persons inserting trade advertisements—i.e., advertisements of articles in which the advertiser is engaged in trading—as private are liable for the difference in rate between 1d. and 2d. per word.

In the interests of our readers we shall not hesitate to take proceedings against any persons in the trade who succeed in obtaining their advertisements published as "Private," and shall insist to the utmost upon the payment of all law costs incurred.

Advertisers desiring to have replies sent care of "THE MOTOR" may do so on payment of a nominal fee of 6d to cover booking and cost of forwarding such replies.

DEPOSIT SYSTEM.—For the convenience and security of our readers we have an approval-deposit system. The intending buyer forwards to our office the amount of the purchase money, which will be acknowledged to both parties. Notes or money order save time. Cheques must be made payable Temple Press Ltd., and are acknowledged to seller when "cleared." If a sale is concluded, we forward to the seller the amount agreed upon. If no sale is made, we return the amount deposited. In either case we deduct a commission of 1¼ per cent. (3d. in the £, minimum 1s.) on the amount deposited, to cover our expenses of booking, postages, etc. Carriage is to be paid by the buyer. If the article is returned, each party pays one way. The risk of damage in transit is the seller's. Articles on approval are not to be retained more than three days unless by arrangement between the parties. All disputes to be settled by the arbitration of the Editors of "THE MOTOR."

DISPLAYED ADVERTISEMENTS

of all kinds are inserted in this Section at 15/- per inch, single column. Terms for a series or for larger spaces on application

All Advt. orders are subject to confirmation in writing from the Head Offices.

All advertisements and contracts are accepted and made upon the express condition that the Publishers have the absolute right to refuse to insert copy to which they may object for legal public or trade reasons and such refusal of copy shall not be a good ground for advertisers to stop a current contract or to refuse to pay for the same or for taking action for breach of contract.

Whilst every precaution is taken to ensure accurate printing, the Publishers will not be responsible for printers' errors.

All communications respecting "Advertisements" must be addressed to "The Manager," "THE MOTOR," 7-15, Rosebery Avenue, London, E.C.

Advertisements from private sellers and buyers are inserted in this section at the rate of 1d. per word, minimum 1/-

Those from traders at the rate of 2d. per word, minimum 2/-

In the interests of our readers we shall not hesitate to take proceedings against any persons in the trade who succeed in obtaining their advertisements published as "Private," and shall insist to the utmost upon the payment of all law costs incurred.

Motorcars.

(Advertisements received up to 9 a.m. Wed.)

A

ALBION chassis, 16 h.p., latest model (still at works), £300 or near offer. Dew, 8 Hart Street, W.C. (Trade 421)

ALBION, 10 h.p., solid tyres, seats five, excellent order, no repair outlays necessary, £70, or offer. Dr. Barron, Mossend, Lanarkshire. (421)

ALLDAYS, 10-12 h.p., side entrance, 1907, with hood and glass screen, lamps, Stepney, tools, etc., excellent condition throughout. Offers to Box No. 521, care of "The Motor." (Trade 421)

ALLDAYS, 10-12 h.p., four-seater, swing entrance, in excellent condition, hood, screen, speedometer, electric lamps, Stepney, three spare tyres, complete outfit, ready road, price £130, or close offer. Bridge Garage, Briggate, Leeds. (Trade 421)

ARGYLL, 18-22 h.p., two-seater, hood, screen, speedometer, excellent condition, Liverpool, £90, or near offer. Box No. 465, care of "The Motor." (421)

ARGYLL, 16-20 h.p. Aster, two ignitions, new gears, overhauled, equal new, tyres unscratched, side entrance, five-seater, Cape hood, folding screen, guaranteed perfect, £185, offers, must sell. Stanhope, Wilford Road, Nottingham. (421)

ARGYLL, 16-20, Aster engine, screen, hood, Stepney and spares, perfect condition, £215. Bamber, Southport. (Trade 421)

ARGYLL, 14-16 h.p., two-seater, 1908 car, lamps, Stepney wheel, complete, spare cover in addition, tools, and full kit, perfect condition, very fast, reliable car, bargain, £150. Bell and Smart, Ltd., 48 Tottenham Street, W. (Trade 421)

ARGYLL, 16-20, side entrance, hood, Stepney, two ignitions, just overhauled and repainted, £130. T. H. Nice, Bury St. Edmund's (Trade 421)

ARIEL, 16-18, four-cylinder, side entrance, glass screen, four speeds, smart and fast, seat five, thoroughly overhauled, £140; spares. Box No. 519. (421)

STAMPS NOT ACCEPTED.

Payment for advertisements intended for these columns must be made by POSTAL ORDER, payable to "Temple Press Limited" and crossed "London City & Midland Bank, Ltd." When stamps are sent to make up odd amounts they must be permanently affixed to the Postal Order in the space provided.

X A SAFEGUARD.—When selling your old Car, take advantage of our Deposit System for SECURITY.