THE AUTOCAR

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

EDITED BY H. WALTER STANER

No. 351. Vol. IX.] SATURDAY, JULY 19TH, 1902. [PRICE 3D.

THE AUTOCAR.

EDITORIAL OFFICES:

COVENTRY.

PUBLISHING OFFICES:

3, ST. BRIDE STREET, LUDGATE CIRCUS, LONDON, E.C.

CONTENTS.

COLONIAL AND FOREIGN EDITION.

IN ADDITION TO THE USUAL EDITION OF "THE AUTOCAR," A SPECIAL THIN EDITION IS PUBLISHED EACH WEEK FOR CIRCULATION ABROAD. THE ENGLISH AND FOREIGN RATES WILL BE FOUND ON THE LAST PAGE. ORDERS WITH REMITTANCE SHOULD BE ADDRESSED "THE AUTOCAR," COVENTRY.

The Autocar can be obtained abroad from the following:
AUSTRALIA: Phillips, Ormonde, and Co., 533, Collins Street, Melbourne.
FRANCE: Nice, Levadi, and Chevalier, 50, Quai St. Jean Baptiste.
UNITED STATES: The International News Agency, New York.

Notes.

Who will Tilt for England?

The Motor Power Co. inform us that, owing to the great value which accrues at present from the publicity given to racing wins, they have decided to construct a certain number of racing cars for next spring suitable for competition in the Gordon Bennett or other important events. It is, we think, fairly well understood that the manufacture of racing cars is not over and above satisfactory from a commercial point of view, as they certainly cost more to build than can be reasonably asked for them. But as we have no doubt that there are at least a few sporting gentlemen in this country who would dearly like to take a hand in keeping the Gordon-Bennett trophy in England, the avowed intention of the Motor Power Co. is not untimely made. The Napier racing model is now settled, and the cars it is proposed to put in hand at once will be ready to take the road in February of next year. This would give any intending entrant a four months' chance of getting thoroughly to know his shell and to test her to the uttermost for the big race. It cannot be denied that a car so learnt and tested possesses at least a ten per cent. better chance of scoring than a vehicle that practically leaves the shops for the post. If a small fleet of these cars were about so soon before the event as the date named, the chances this country possesses of retaining the cup would be enormously increased by the amplification of the Automobile Club's field of choice of champions. The Motor Power Co. inform us that they will offer these cars at a nominal price compared with their cost of construction. This is a sporting offer, and we hope will find several acceptants amongst gentlemen who are desirous of seeing the automobile flag of England in the forefront of the battle. It would be preferable to the feelings of Englishmen that the cup should be won by a private owner, and it is because the avowed intentions of the Motor Power Co. afford a possibility of this much-desired end, that we give more than usual prominence to their announcement.

Roads for Automobiles.

The Vienna correspondent of the *Morning Post* states that the *Morgenzeitung*, in a leading article, advocates the construction of roads which shall be set aside for the exclusive use of motor cars. Such roads, the journal thinks, should be substituted for light railways, which are more difficult and more costly to construct and more expensive to maintain. The *Morgenzeitung* considers it absurd for legislatures, committees, and courts of justice to waste their time over the routes and construction of local railways instead of turning their attention to the automobile—the means of communication in the future. It would be only necessary, it says, for the State to make the roads; private enterprise would see to the development of the new carrying trade by motor car, which cannot supersede existing railways, but will supplement them in a most useful way. Our contemporary need not have gone to Vienna for an expression of these sentiments, as we have consistently advocated the same thing for this country for years past. At any rate, it is certain that automobilism cannot be developed to anything like the perfection of which it is capable unless roads are provided which shall allow

of its possibilities being adequately brought out. On the main roads under present conditions automobilism presents the spectacle of a captive bird capable of extensive and rapid flight, but whose wings are kept carefully clipped, so that there is no opportunity for it to exercise its powers to the fullest or even to a normal extent.

The Famous Light Napier.

By the above heading we would be understood to infer the particularly famous Napier, whose speed and staunchness, coupled with the plucky and skilful driving of the man at the wheel, have brought the Gordon-Bennett cup across the Channel. The car is now back in this country, and Mr. Napier was good enough to ask us to make an inspection of the gear before the car was taken down, with a view to overhaul preparatory to the Bexhill speed trials on August Bank Holiday. Bearing in mind the stress and test through which this car has been, the condition of the gear wheels and clutches must be seen to be believed. Only the second speed gear shows any sign of wear, and this but the slightest. Having regard to the amount of changing which must have been done on the fearsome Arlsberg Pass road and other mountainous country through which the racing course was set, we can express nothing but admiration for the splendid work and material by and of which this vehicle is constructed. It is the same with the bearings in all parts, so that an inspection of the car makes Mr. Edge's statement that he went through from start to finish without mechanical trouble of any kind—indeed, without the necessity even of using a spanner—easily credible. It is to be regretted that more of the English manufacturers have not striven to place cars side by side with the best French vehicles to strive and persevere in striving as the Napier people have done. However, the bare possibility of contesting the Gordon-Bennett cup in this country may put half a score of our firms on their mettle.

Excitable Witnesses.

The Wallingford Borough Magistrates are to be complimented upon their commonsense in the decision they arrived at last week in an autocar case which came before them. Mr. W. F. Parker, manager of the Oxford Cycle and Motor Car Co., was charged with driving at a greater speed than was reasonable and proper having regard to the traffic on the highway. The facts were that a team of farmer's horses took fright at a passing motor car and knocked down and injured a carter who tried to stop them, but a great deal of sentimental evidence was worked up as to the speed and noise of the car, and prejudice was imported into the case by the local press before the hearing came on by gratuitous assumptions such as the following: "It is high time that steps were taken to put a stop to this sort of thing. People with money enough to buy these expensive toys have no right to jeopardise the lives of those they pass on the road with them, and unless they can travel at such a pace as to ensure this they ought not to be allowed to travel at all." When the case came to be sifted, however, it was found that the motor car was only a 3½ h.p. light Renault, incapable of going more than twelve miles an hour, that it was being driven by a very careful and experienced man, and that the blame rested entirely with those who had charge of the horses. The animals were led by a boy, who had them under very imperfect control, and who really terrified them by tugging violently at their reins when the car appeared. The horses were pulled up again in about 150 yards, and the automobilist, turning round and observing that they were apparently under proper control again, drove on. Otherwise he would have alighted and rendered whatever assistance he could to the injured man. The bench, after a patient hearing, dismissed the case, and in doing so expressed the opinion that the witnesses for the prosecution were perhaps borne away by the excitement of the moment, and therefore thought the motor was travelling at a greater speed than it really was. We have no hesitation in saying that nine-tenths of the charges against automobilists rest on the evidence of similarly excited witnesses.

The Safety of the Roads.

We are reminded from time to time by accidents which occur that there is one direction in which the condition of the roads, so far as the safety of the public is concerned, might be improved. The police are professedly zealous in their consideration for what they regard as the public safety. The phrase "to the common danger" is interpreted as meaning not a danger that actually exists at any particular moment when a motor car may be passing, but one that might be present supposing there had been people about. And if an autocar is seen travelling at all fast on a deserted highway the constable at once conjures up in imagination a crowd of people or groups of children strolling and playing about, and in consideration of the mental picture thus conceived, the driver is heavily fined when he appears before the magistrates. It is a common practice for children and even grown-up people to stroll aimlessly about the highways or even to use the roads as playgrounds. Obviously, roads were not provided for these purposes; roads were made for the use of passengers—persons and vehicles moving from place to place. For the better protection of the pedestrians from the danger of being run down by passing vehicles, footpaths were provided, and ample strips of roadside land were left for cattle to walk and graze upon when being driven along the highway, and also for the convenience of children to play. The usefulness of these several portions of the road was apparent in the old coaching days, when a clear course was needed for fast travelling vehicles. Upon the introduction of railways and the passing away of the stage coach, however, the roads became comparatively unused for any except local traffic. Fast travelling vehicles were then scarcely ever seen upon them, especially after the promising steam road vehicles, which made their appearance in the early part of the nineteenth century, were suppressed by the Red Flag Act. There was not the same necessity for pedestrians to keep strictly to the footpath for safety. Indeed, so unimportant was road traffic at that time that even the Act of Parliament it was found necessary to pass for the regulation of

road users, which provided that they should keep to the left, not only became a dead letter, but was actually lost sight of altogether until it was lately rediscovered. A practical observance of the Act continued in force, but it was held, even by judges, to be only a custom—the rule, and not the *law* of the road. As to the roadside strips of land, they were not needed to anything like the extent they were formerly, when cattle and live stock, instead of being driven to markets and fairs along the main roads, were transported by train. These useful strips of land have disappeared. For the most part they have been enclosed by adjoining landlords. So that now that the main roads are being required again for comparatively fast traffic, they are greatly attenuated, quite narrow, and altogether inadequate for their purpose. The irony of the situation is that if any of the roadside land which once undoubtedly formed part of the highway is now required for the widening of much used thoroughfares, a practically prohibitive price is often demanded. To come to more practical considerations, we would ask whether it would not be possible for the police and the local authorities to afford some protection to the public, for whose safety they are responsible, by exhibiting notices warning people, and especially children, of the extreme danger of playing or strolling aimlessly on the highways? If they did this they would be doing a far greater service in their day and generation than by prosecuting and persecuting automobilists, and thus encouraging the belief, which has, unfortunately, already gained too strong a hold on the public, that the King's highway is merely a promenade or a playground.

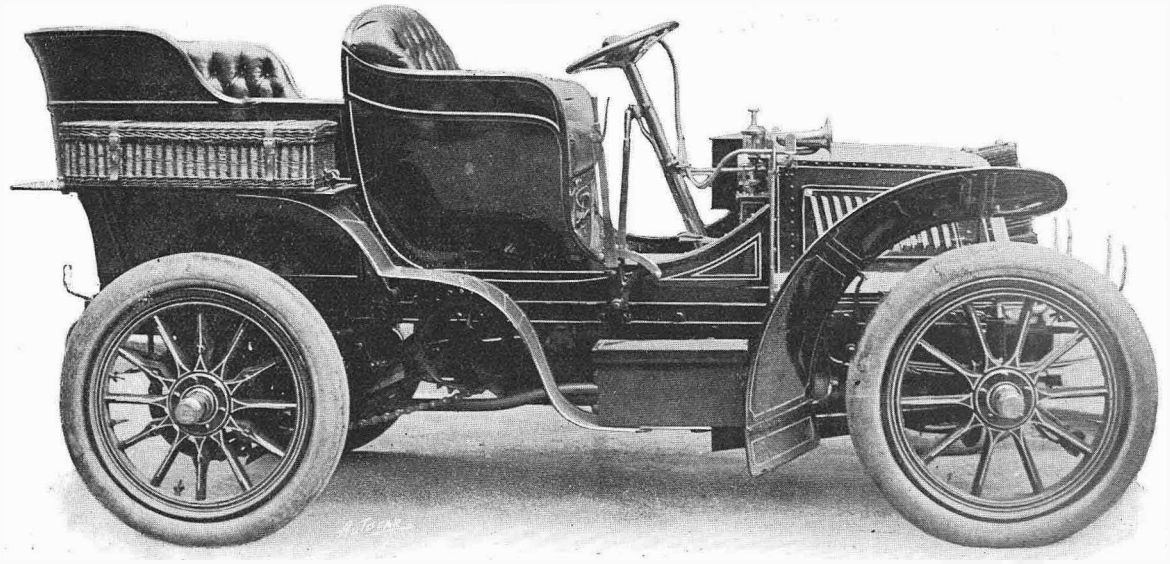
Tottenham District Council has decided to purchase "an automobile combination chemical engine, fire escape, and hose tender."

* * *

A novel speed-guessing match will shortly come off between two members of the Automobile Club of France. One has backed his capacity for estimating speeds against the other, and it is proposed to test the relative abilities of the wagerers in the following manner: The two gentlemen, accompanied by an umpire duly agreed between them, will travel in an automobile fitted with a speed indicator between Paris and Cernay and back again. During the trip each of the competitors will be required to estimate the speed at which the car is travelling at the moment the question is put, and will be allowed ten seconds in which to make his estimate. His reply will be compared with the reading of the speed meter, and if he guesses within ten per cent. of that reading he will be considered to have scored a point. The result of this trial should prove interesting, and might be advanced by Mr. Staplee Firth when defending some of his many clients before magisterial benches, if such benches could be brought to view the question of speed estimates through any but prejudiced glasses.

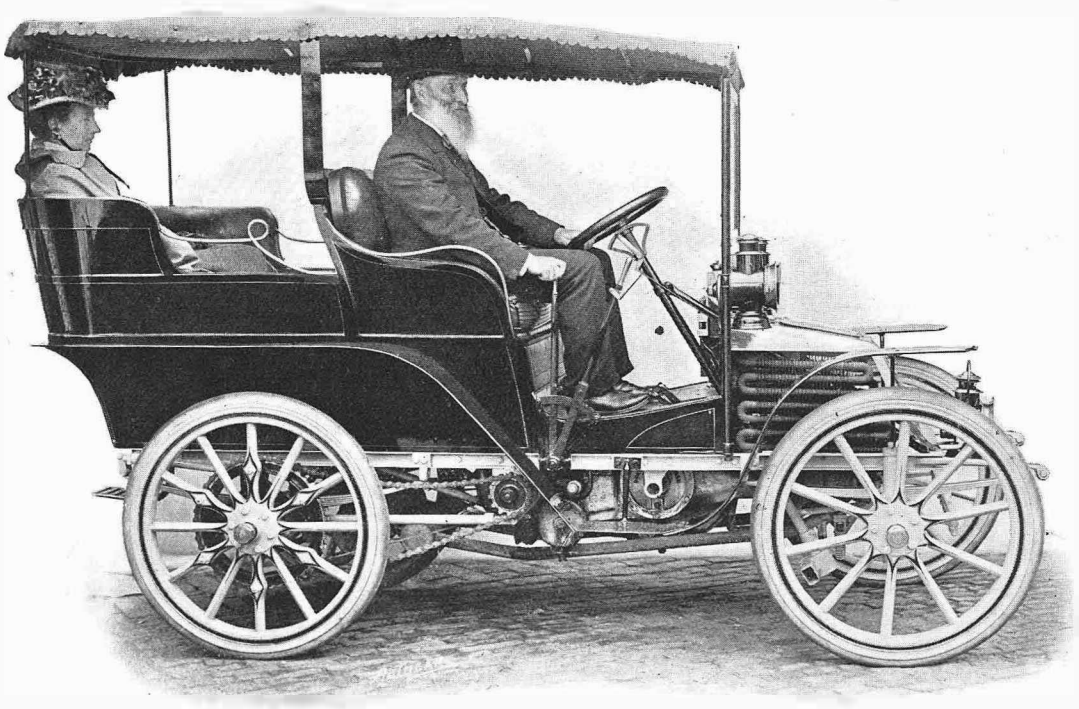
The 10 h.p. Decauville car that accomplished the Edinburgh to London non-stop run.

MR. S. H. PEARCE'S 16 H.P. NAPIER.



There are two points of interest in connection with the 16 h.p. Napier which has recently been supplied to Mr. S. H. Pearce. The body, which is of English make, is made entirely of aluminium, and the front panel, as can be seen, is one continuous curve, instead of being in two pieces, as is usu l. The back portion of the tonneau, as the illustration shows, is curved outwards all the way round, thus making a very comfortable back, and preventing the dust from coming in. The body, we may add, is made from Mr. Pearce's own designs in conjunction with those suggested by the Regent Carriage Co.'s designer, and both this gentleman and Mr. Pearce are to be congratulated thereon.

A NEAT ARRANGEMENT.



The above illustration is from a photograph of a standard 10 h.p. James and Browne tonneau car, built to the order of Mr. Sam O'Kell, of "Overley," Langham Road, Bowdon. The body is by Messrs. Hollick and Pratt, of Coventry, who are also responsible for the canopy, which is ingeniously made to fold, close, and pack away in a shallow space behind the front seat. The mechanical details of the J. and B. standard 10 h.p. car were illustrated and given in detail in our issue of 16th November, 1901.

THE BUCK CARBURETTER.

The accompanying figures and description will serve to convey a clear idea of a carburetter which we have seen in operation in connection with a small stationary petrol engine, where it has shown its carburetting action to be all that could be desired in the matters of economy and efficiency. It is of the wick type, and by reason of its construction is of a particularly handy and adaptable form. The inventor, Mr. W. G. Buck, claims that by its action the air passing through it on its way to the cylinder is more uniformly carburetted than is the case with the spray or surface varieties.

As may readily be seen, it is primarily formed of two air-tight chambers *a*, figs. 1 and 2, containing the petrol, and *c* the carburetting chamber. These two chambers are connected together by a horizontal pipe *d* in both figures set at the side of the apparatus, just clear of the bottom. This pipe *d* is provided with a cock *e* for the purpose of allowing the petrol to pass from chamber *a* to chamber *c* in any desired quantity. From the under side of the top of the carburetting chamber *c* depend a number of wicks (twelve in the accompanying figures), and which are so set that they leave a space alternately at the opposite sides of the chamber, as shown in fig. 1. The chambers are also connected by an air tube *f*, which passes from near the bottom of the carburetting chamber *c* to the top of the petrol chamber *a*, which it enters, as shown above the level of the spirit.

A storage chamber *k* is provided at the left-hand of the apparatus, the carburetted air passing thereto by the elbow outlet *j*. Filtering chambers similar to *q*, fig. 3, are fitted to the filling plug *b*, air inlet pipe *h*, and induction pipe *l*, where shown and marked *q*.

This carburetter acts as follows: It is clear that when the petrol tank *a* has been charged with spirit through the plug *b*, and the air cock in pipe *h* has been opened, petrol will flow from the pipe *d* when cock *e* is open into the base of the chamber *c*, and will rise therein until its level is above the lower opening of the air-tube *f f*. When this lower end of tube *f* is submerged, the flow of petrol will cease, as then no further quantity of air can obtain access to the space above the petrol in the petrol tank *a*. The wicks *g g* depending from the roof of the carburetting chamber *c* are of sufficient length to dip well into the petrol when the spirit has risen above the lower opening of the air tube *f*. These wicks being formed of suitable material, absorb and become saturated with petrol from bottom to top. The air to be carburetted is drawn into the carburetting chamber through the air inlet pipe *h* by the suction action of the piston taking effect through the induction pipe *l*. The air so induced into the

Fig 1

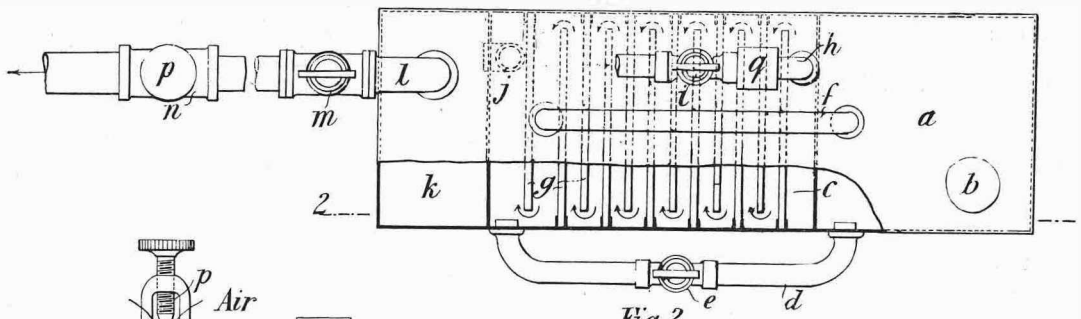


Fig 2

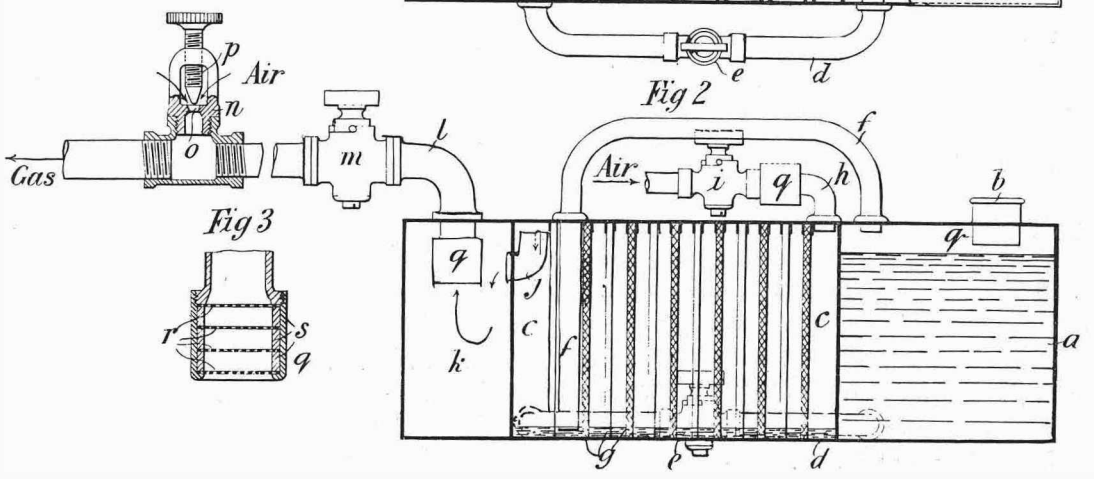


Fig 3

a, Petrol tank or chamber.
b, Filling plug to ditto.
c, Carburetting chamber.
d, Horizontal pipe connecting petrol and carburetting chambers a and b.
e, Cock in pipe d.
f, Air tube passing from near bottom of chamber c, to above petrol level in chamber a.
g, g, Carburetting wicks.
h, Air inlet pipe to carburetting chamber c.
i, Air cock in pipe h.
j, Outlet for carburetted air or explosive mixture to storage chamber k.
k, Storage chamber.
l, Induction pipe.
m, Cock in induction pipe.
n, Air regulating valve.
o, p, Needle valve to same.
q (fig. 3), Filtering chamber.
r, Gauze discs in same.
s, Distance rings to ditto.

chamber *c* takes a zig-zag passage through it, as indicated by the small curved arrows shown in fig. 1, and in so doing passes across each side of each of the petrol saturated wicks *g g*. The effect of this is thoroughly to carburate the air in its passage, which then travels by the elbow outlet *j* into the storage chamber K, and thence per filter *q* and pipe *l* to the combustion chamber of the engine. On its way it draws to and mingles with itself any desired amount of pure air through the valve *n*, fig. 3. As the petrol passes off from the surfaces of the carburetting wicks *g g*, and is taken up by the current of air, the level of the spirit lying on the floor of the chamber *c* is lowered, and the open end of the air tube *f* being uncovered, air passes thereby to the space above the petrol in the tank *a*, and a further and proportionate amount of petrol flows per the horizontal pipe *d* to the chamber *c* until the lower end of the air tube *f* is again covered, when the flow ceases. When the carburetter is not in use the closing of the cock *e* in pipe *d* confines the spirit in the chamber *a*, and is therefore perfectly safe. A trial carburetter of this kind has been run for considerable periods in a dusty workshop, and no trouble, we are told, has resulted from the clogging of the wicks by dust, which has proved the weak point of what automobilists speak of familiarly as "flannel carburetters" when used for cars running upon the road. The self-controlling feed of petrol from tank to carburetting chamber is similar to that used with the carburetter originally fitted to the Werner bicycle, while the arrangement of the wicks is a great advance upon the crude method first adopted by Vivinus in the cheaply constructed carburetters fitted to his earlier cars.

CRANKSHAFTS AND CRANK LUBRICATION

BY CAPT. C. C. LONGRIDGE, M.I.M.E.

Two matters are here proposed to the consideration of manufacturers. First, the position of Otto cycle motor crankshafts. The universal present practice is to place the centre of the crankshaft below the axis of the cylinder. The writer considers this practice open to improvement. The objections to the method in vogue are sufficiently obvious. All Otto cycle motors are single-acting, high-speed engines of accentuated type; in as far as the initial pressure is greater, more violently applied, and more rapidly repeated—constantly in one direction, namely, on the downward stroke. This sudden blow, always applied in the same direction, throws a heavy strain on the connecting rod and crankshaft, and, in large power gas engines, necessitates crankshafts of about half the diameter of the cylinder. This is one of the mechanically weak points of all engines using the Otto cycle. The question is whether the present practice deals in the best way with this defect. The prevailing method of locating the shaft line so as to intersect cylinder axis gives equal angularity to the connecting rod on its up and down stroke. The cycle, however, imposes all the working strain during the down stroke; consequently, construction should aim at keeping the connecting rod in the most favourable position to withstand pressure in this period of the cycle. In other words, the angularity should be reduced during the working stroke, being proportionately increased for the idle strokes; less angularity when the pressure is great, more angularity when it is slight. An additional advantage is that the crosshead is kept constantly pressed against one guide if the shaft is half stroke away from the axis of the cylinders, consequently there is no knock from bar to bar on turning centre. All that is needed to accomplish this is to set the crankshaft in advance of the axis of the cylinder. This, as regards motors, would, as far as the writer is aware, be an entirely new departure; but it is not unknown in the modern, single-acting, high-speed steam engine; and the reasons for its use in the latter are certainly more cogent in the case of the former. In steam practice the Peache high-speed engine, made by Davey, Paxman, and Co., and the Westinghouse single-acting engine might be cited as instances of this method of construction—a method which manufacturers might do well to copy.

In adding a few lines on crankshaft lubrication, the writer regrets that he has been unable to institute the experiment by which he intended to have satisfied himself as to the value or otherwise of the suggestion here made. A very usual method of crank lubrication, in modern high-speed engines, is to fill the crank chamber with water to a depth covering half the crank-pin on the down stroke, floating oil on the top. This plan has two advantages: The churned oil and water furnish better and more ample lubrication than oil alone, while the gradual evaporation of the water prevents the temperature rising over 212° Fahr. It would be worth trying the same plan for motor cranks. Provided, which with the piston fit and temperature does not seem likely, that water did not find its way into the combustion chamber, and that evaporation was not too rapid, the addition of water would not only improve lubrication, but very considerably cool the piston and cylinder walls, whilst at the same time providing a volume of lubricant enabling the engine to run safely should the oil supply temporarily fail. It is unnecessary to remind readers that the crank chamber must communicate with the atmosphere by pipe or otherwise.

Mr. Pandeli Ralli, who has the distinguished honour and pleasure of entertaining Lord Kitchener as his guest, is an ardent automobilist. Mr. Ralli is one of Mr. Oliver Stanton's numerous converts to the pastime, and we have no doubt that Lord Kitchener will enjoy some drives on his old friend's Daimler while he is in England, so that we quite expect to be able to announce before long that some fortunate maker of automobiles has been favoured with an order for a car from Lord Kitchener.

* * *

Just as we were going to press we received a wire from Mr. Walter Munn, the secretary of De Dion-Bouton, Ltd., stating that Mr. J. W. Stocks had just driven an 8 h.p. De Dion-Bouton car from Land's End to John-o'-Groat's, a distance of 888 miles, in two days, fourteen hours, and twenty-five minutes, inclusive of all stoppages. This works out at 14.19 miles—an excellent performance. Mr. R. H. Fuller accompanied Mr. Stocks, and the times were, we believe, checked by landlords at the inns where stoppages were made.

PRACTICAL NOTES ON THE PHYSICS OF AUTOMOBILISM.

The Heating of the Internal Combustion Engine.

The internal combustion engine is a very economical apparatus, in comparison with the steam engine and boiler, to which combination it corresponds, inasmuch as a very much larger proportion of the total energy delivered to the piston of the engine, or, to put it more correctly, released within the cylinder, is converted into mechanical energy, in the petrol or oil engine, than of the energy delivered to the water in the steam boiler. But, as so often happens in these cases, the increased efficiency of the internal combustion engine is purchased at the cost of certain troublesome features, principal among which is the fact that all parts of the engine heat considerably, and, unless means are taken to cool them, the engine itself will cease to work.

Why the Internal Combustion Engine Heats more than the Steam Engine.

The inefficiency of the steam engine and boiler, and the losses in the internal combustion engine, are both due, in part, to the same cause, the delivery to the containing metal walls of the boiler and engine of a portion of the heat which has been delivered to the water, or the air in the cylinder of the oil or gas engine, but in the case of the engine and boiler, the final temperature is not as high as that which is produced in the cylinder of the internal combustion engine, and, in addition to the difference in temperature, is very much more distributed in the steam engine and boiler than in the cylinder of the gas or oil engine. With the former there is a very much larger mass of metal to receive any heat that is given up to it by the water and steam in the process of heating and expanding, and there is also a very much larger surface of metal exposed to the atmosphere from which heat can radiate, than with the gas or oil engine. Hence the cylinder walls of the latter, and the metals which are in connection with them, receive a very much larger quantity of heat at each explosion of the engine than any part of the steam engine.

The Troubles Produced by Excessive Heat.

There are several troubles produced by excessive heat, if continued for an appreciable time. One of the most important is the whole of the engine expands, and in doing so it increases the friction of the working parts of the engine everywhere, and if this goes beyond a certain figure, it may stop the working of the valves, etc., entirely, or on the other hand it may create passages through which the gas and air can escape, instead of passing into the cylinder, or, instead of remaining there during the compression stroke.

The Remedy.—Hence some method of cooling the cylinder and the metal portions that are connected to it has to be adopted, and this has taken the form, almost universally, of a water jacket surrounding the cylinder and valve chamber connected to a reservoir of water, from which a constant circulation is kept up, the heated water rising to the top of the water jacket, passing thence to the top of the reservoir or water tank, the colder water passing from the bottom of the tank to the underside of the water jacket on the engine cylinder.

The Limit of this Arrangement.

It will be evident that this arrangement is limited in its application by the quantity and initial temperature of the cooling water in the reservoir, subject to any artificial cooling to which the water can be subject. Stated shortly, the cooling water has to abstract a certain number of heat units from the engine it protects, the number being sufficient to keep the engine at a working temperature. Time, of course, has its usual effect in all these cases. At every explosion of the engine a certain number of heat units are delivered to the cylinder walls, and a portion of these heat units are conveyed to the water in the tank. The capacity of the water in the tank for abstracting heat is strictly limited, by its quantity, and by the difference in temperature between it and the cylinder walls. Each gallon of water in the tank will absorb ten heat units for every degree of initial difference of temperature, and for every degree that can be artificially produced. With the stationary gas or oil engine, no difficulty is usually experienced in the matter. If the engine tends to become unduly warm, an additional tank, or two if necessary, can be added. Cases often arise, however, where the trouble is met with.

A Case where Trouble Arose in West Africa.

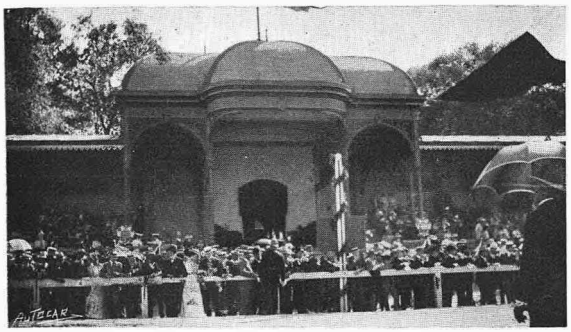
A gas engine was fitted at a brickworks in West Africa, and it was found that it would not run for more than a certain number of hours daily. Adding two tanks cured the trouble, which was due to the higher initial temperature of the cooling water.

How it Applies to the Automobile.

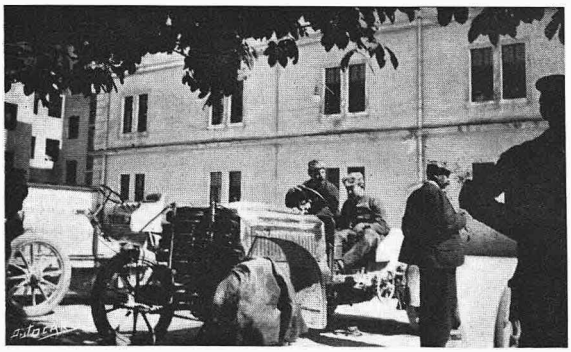
In the motor car the space is strictly limited, and, therefore, the problem involved in cooling the cylinders of the petrol engines employed is a very knotty one, though it has been very successfully attacked by the makers of petrol cars. In fact, one cannot but admire the skill and knowledge that makers of this form of motor car have brought to the work. With the petrol, or petroleum, internal combustion car, the capacity of the water that can be carried, or the air, where no water jacket is employed to absorb the heat delivered to the engines, is the limiting value of the run of the car without taking in fresh water, or stopping to cool. As the water that can be carried is limited, any method of cooling, such as that which is now so common, in which the water is cooled to a certain extent by the air draught created by the car itself, in its passage, assisted where practicable by a fan sucking the air more directly through the cooling apparatus, adds to the limiting distance over which the car is able to run. Every degree the water is cooled by the passage of the air adds ten units for every gallon of water carried to its cooling ability. The specific heat of atmospheric air is small, less than a quarter of that of water, and air is also a bad conductor of heat, so that the air which passes through the cooling apparatus probably does not take up anything like the full quantity of heat that it is capable of, while the full capacity of every cubic foot of air for absorbing heat is very small. Moving air, however, always has a comparatively large cooling effect, as we who live in England know to our cost at times. In the great majority

of cases, however, the cooling is largely due to evaporation, and evaporation does not come in on the motor car. A wet towel around a wine bottle, and wet clothes on a man, both produce cold by the evaporation of the liquid, a portion of the heat required for the evaporation being taken from the body of the man, or from the wine bottle and its contents.

SOME MORE VIEWS OF THE PARIS-VIENNA RACE.



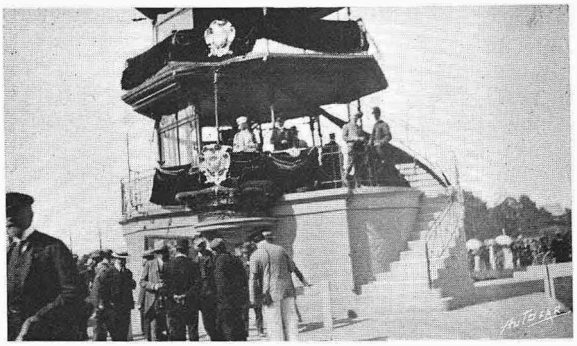
Stand and crowd at the finish. Flag shows line.



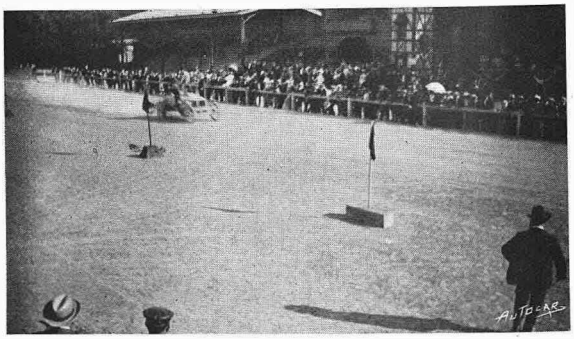
Salzburg garage.
The car in the centre is No. 7, driven by Mr. Henry Farman.

Seeing the race. A car arriving at a control.

A Darracq car at the control at Bregenz. "No extraneous aid permitted."



The official timekeepers' stand and stand of the Automobile Club of Austria at Vienna.

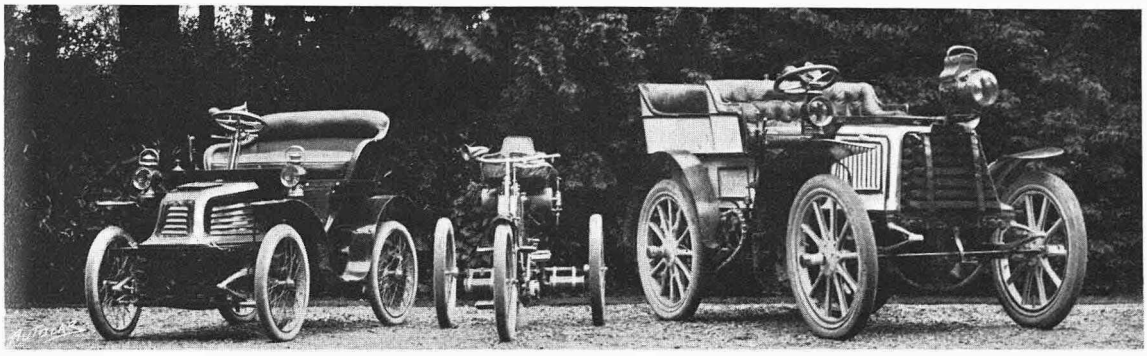


The arrival of a light Panhard before the grand stands in the ring at Vienna.

It would be interesting to know, remarks a writer, whether the automobilist has any legal remedy against the "adhesive" bicyclist. The expedient of pulling up the car is too drastic for the average man, and the writer thinks it might be worth the while of some weary automobilist to see whether the law will not afford him protection.

Mr. H. W. Wallace, of London Road, Broad Green, Croydon, informs us that his premises are now suitable for building and repairing motors. He stocks petrol and spare parts, and the place being situate on the main road it is very convenient for motorists going through Croydon, both for repairs and garage.

AN INTERESTING AUTOMOBILE STUD.

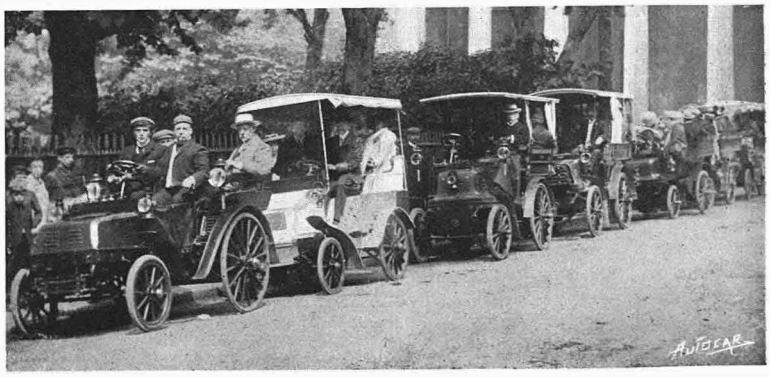


Mr. C. H. Hole, a well-known Lincolnshire autocarist, is the happy possessor of the group of automobiles which appear in the accompanying illustration. The machine in the centre is an Ariel tricycle (the third three-wheeler owned by Mr. Hole), whilst the vehicle on the right is a Panhard; that on the left is a Peugeot. Mr. Hole's residence is Quorn Lodge, Loughborough, and he is now studying engineering at Lincoln. He is a very skilful driver, and is an excellent amateur photographer, the illustration which we give being reproduced from one of his prints.

TYRE ADVICE.

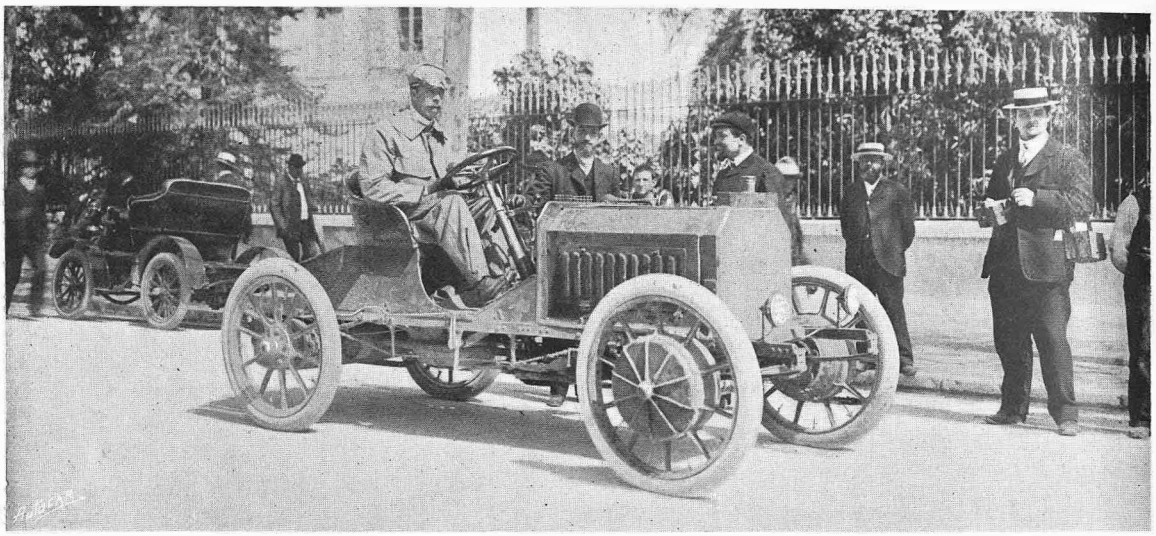
In summer time, tyres are more liable to injury than in the winter, consequently greater care should be exercised. The precautions are always the same, but few automobilists appear to put them into practice. First, use plenty of French chalk whenever a cover is removed and replaced. Secondly, carefully avoid any twisting or folding of the inner tube when returning it within the cover. When the air tube has been inflated sufficiently to take its circular form, examine carefully to see that even then no nipping is taking place. Thirdly, pump the tyre up hard; do not be afraid of bursting the cover. If you have blown the tyre too hard, the subsequent hard running of the car will make this known to you, and some of the superfluous air may be allowed to escape until the car runs normally again. Fourthly, never run even a quarter of a mile on a deflated tyre. Even in that short distance you may ruin an expensive cover. Fifthly, never, under any consideration, replace a repaired punctured tube or a new whole tube without making a rigid search for and finding the cause of the puncture, be it nail or flint spar, and withdrawing it from the cover. Sixthly, be particularly careful to patch the cover on the inside, even when the puncture is of the smallest dimensions, for, as the puncturing agent has passed through the fabric, a passage for water has been made, and the fabric will, sooner or later, begin to rot at that point. Seventhly, be careful to screw the mushrooms well down on to the inside edges of the cover, in order that it may be well held to the rim, and no strain may be thrown upon the valve.

COUNCILLORS AND CARS.



On Friday, the 11th inst., the councillors and friends of the Islington vestry accepted the invitation of Ald. Elliott—who will next year be their mayor—to a motor drive to his house, Chalk Pits, near Maidenhead. Seven cars, headed by Mr. Walkley's Benz, followed by Mr. E. J. Coles's Belle, left St. Pancras Church at one o'clock, making good time to Maidenhead, where the guests spent several pleasant hours, which were brightened by the Coldstream Guards' Band, which discoursed sweet music. A start for home was made at 8.30, the cars throughout being on their best behaviour.

CONTINENTAL NOTES AND NEWS.



Mr. Lorraine Barrow on his Mercedes Lohner.

The Ardennes Circuit.

Hardly has Paris-Vienna been got out of the way than arrangements are being made for organising another speed event in Belgium, which will have an advantage over the long-distance international contests in that it will be a straightaway race from start to finish, without neutralisations and without compulsory stoppages of any kind. The Ardennes Circuit, to be run off on July 31st, will be the first attempt at putting into practice the principle of the motordrome. These tracks, while at one time regarded as almost indispensable in view of the threatened suppression of racing, have not been looked upon with much favour by automobilists, who naturally do not see any advantage in racing on tracks which fail to offer the same conditions as are to be met with on the road, where continually changing gradients, road surface, and unexpected corners test not only the qualities of the vehicles, but the skill of the drivers themselves.

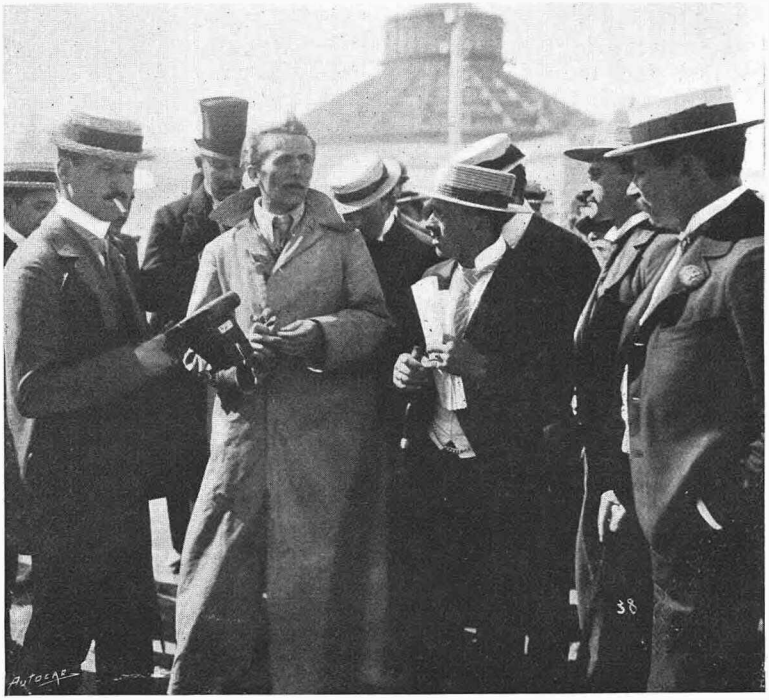
In the Ardennes Circuit these conditions will exist, for the Automobile Club of Belgium have selected a triangular stretch of road having a length of not less than fifty-three miles, and passing through country in which there are no towns, or even large villages needing neutralisation. The course will include Bastogne, Longlier Habay la Neuve, and Martelange. A Belgian correspondent describes the road as follows: Between Bastogne and Longlier the road is the same that was taken in the Paris-Berlin race, but it will be followed in an opposite direction, so that the sharp twisting hill at Longlier will be taken on the up grade. From Bastogne the road is straight for a distance of five kiloms., with a slight rise, and passes by small villages situated at some distance from the highway until Vaux les Rosiers is reached. This is at the bottom of a hill, which continues in a long easy up grade on the other side. There is a rather dangerous corner at Molinfais, and then for some miles the road undulates, with a succession of short up and down grades. Towards Martelange there is

Bucquet on his Werner motor bicycle. He was the winner of the motor bicycle section of the Paris-Vienna race and the recent Northern alcohol race. As reported elsewhere, he is now lying in a critical condition, having been attacked by a would-be assassin when returning to St. Denis the other night.

a long easy rise, and then a sharp down grade. The road is now on the Luxemburg frontier. On leaving Martelange there is a winding up grade of one and a half miles in length, and then a good road on to Bastogne. This triangular course will be covered six times by the cars, making a total distance of 316 miles, and twice by the motor cycles, which will be started in the afternoon when the vehicles have finished. Nearly eighty entries have been received, including most of the vehicles competing in the Paris-Vienna, and with a view of preventing collisions it is intended to make a selection of cars, so that only a limited number will be running. The interest of this race lies in the fact that the whole of the distance will be covered without compulsory stopping. There will consequently be no time for cooling bearings or tyres, and the race will, in fact, be more a test of tyres than of vehicles themselves. If it can be arranged a captive balloon will be sent up in the middle of the triangular course, and with the aid of telescopes it will be easy to follow the incidents of the race.

The Tour in the Balkans.

Those tourists who accepted the invitation of the Government of Bosnia and Herzegovina to follow up their run from Paris to Vienna by visiting these interesting and little-known countries are now returning home entirely satisfied with their excursion. Owing to the time taken on the run to Vienna only a few were able to continue the tour, and the special train from Budapest carried eight cars and twenty-one automobilists, among whom were Baron de Zuylen, Don Jaime de Bourbon, and Baron Eynard. The railway journey finished at Youcani, a few miles from the Bosnian frontier, and the tourists then went to Jaice, where they had an official reception in the presence of a big crowd of spectators. The following day races were run off at Olidze in extremely picturesque country, and at the capital, Serajevo, the Government entertained the visitors to a banquet. They then continued on to Mostar and Raguse. After the bad roads of Hungary the automobilists were agreeably surprised to find such splendid highways in Bosnia and Herzegovina, and though they have been laid out primarily for strategical purposes, they open up quite an unexpected touring ground for autocar owners in search of novelty and picturesque scenery, while the hospitality of the population is all that can be desired, if not a trifle embarrassing. As the autocars were the first ever seen in the country they were always surrounded by a big crowd, and even the tourists themselves, in their leather costumes and goggles, were an object of intense curiosity, each member of the caravan being accompanied by a long train of followers whenever he went on foot to see the attractions of the town. M. Journu says that he could not go into a post office without having half the population at his heels. This curiosity was not obtrusive, but was rather a naive and child-like interest in the men who had come, as it were, from another world in vehicles the like of which the Bosnians had never seen. In Austria the tourists had another experience of native curiosity, for they were amused, while dining at a hotel, at seeing a number of heads gazing through the doors and windows, and finding that the hotel-keeper had been charging the equivalent of sixpence apiece for the privilege of seeing the automobilists eat. There was only one accident during the tour in Bosnia, when the car of M. Rugicku, of the Automobile Club of Austria, overturned and injured one of the Government delegates, and it appears that some of the tourists found themselves stranded through relying too much upon the promises of the tyre makers, who failed to send tyres to the different towns along the route as arranged. This is the first time that tourists have been to Bosnia, but it will probably not be the last, for the country is very easy of access, either through North Italy or by sea from Marseilles.



Baron de Forest, who made the fastest time over the most dangerous section of the road. In many respects probably the most daring drive undertaken, as he finished nearly an hour in front of everyone else, and had behind him some of the most reckless drivers in Europe. The photograph was taken at Vienna when he was explaining the accident to his petrol tank which robbed him of a much better position at the finish.

Autocar Regulations on the Continent.

At a moment when it is proposed to alter the existing legislation concerning autocar traffic in England, it is interesting to find that the same movement is observable on the Continent, where it is hoped to give a more liberal interpretation to the laws now in force, and thus to still further encourage the development of the automobile industry. Ever since the manufacture of autocars gave promise of becoming a national industry, the French Government has wisely abstained from doing anything

which might put impediments in its way, and it was only when the recklessness of a certain class of automobilists made some sort of restrictive legislation absolutely necessary that various measures were passed limiting the speed of autocars, creating certificates for drivers and cars, and compelling vehicles capable of travelling at more than the legal limit of eighteen and a half miles an hour to carry numbers. Except for the certificates, which are certainly useful, it is very doubtful whether this legislation is serving the purpose for which it was framed, and the police are the first to recognise its defects, for, despite the latest amendment to the law inflicting severe pains and penalties on automobilists who try to escape the consequences of accidents by flight, it is very rare that anyone is summoned for exceeding the legal limit of speed. There are two reasons for this state of things. In the first place the police do not patrol the country roads in search of autocars which may be travelling at more than the legal limit of speed, and so long as the vehicles conform to the law when passing through the towns and villages they are allowed to do pretty much as they like on the highways where there is no traffic. This, however, is not a tolerance, and if the drivers of vehicles could be arrested it would probably be done, but the local police are not disposed to waste their time on the country roads when they are perfectly aware that it is extremely difficult to estimate the speed at which a vehicle is travelling. Moreover, the police are not inclined to do anything which may interfere with traffic in the different communes, for the larger the number of vehicles the better it is for trade, and not only the hotels, but the petrol depots and repair shops are benefiting enormously from the heavy autocar traffic. Besides every commune possesses a number of automobiles, and when doctors, magistrates, road surveyors, and police superintendents have motor vehicles for their own use the autocar enjoys a certain dignity which places it beyond the reach of prejudice and petty persecution. Should, however, accidents take place, the law is enforced, and the automobilist is imbued with a sense of his responsibility. It is this feeling of responsibility which has done so much to stop the persecution to which automobilists were at one time subjected in Paris, when it was a common thing for twenty or thirty summonses to be taken out in the course of a day, but now that the public have got accustomed to autocars, and drivers themselves have seen the foolishness of showing off their skill by driving through the thick traffic at fast speed, there are rarely any complaints, and autocars give no more trouble to the police than the horse-drawn vehicles. As this sense of responsibility grows upon automobilists it is hoped that there will be no necessity for fixing a speed limit, and it is very probable that before long the statutory limit on country roads will be suppressed and replaced by some measure intended to increase the responsibility of autocar drivers. Even in Germany there is a decided tendency towards meting out more liberal treatment towards automobilists, and the Government has recently issued a circular unifying the traffic regulations throughout the country with the avowed object of preventing the local authorities from adopting byelaws of their own which may have a repressive and reactionary effect upon autocar traffic. According to this circular autocars are in future to be subjected to the law regulating the use of steam boilers. An owner must declare his vehicle to the local police, who will give him a driving certificate. He must have his vehicle examined periodically by the engineers employed to inspect steam boilers. He must always have in his possession, so as to be able to present them to the police when required, his driving certificate and the report of the engineer upon the condition of his vehicle. In the provinces, where autocar regulations do not exist, the owner has merely to declare his car, and if he is well known to the local authorities it is not necessary to carry the certificate and engineer's report referred to, though they must be produced whenever the owner has to renew his driving certificate. Whatever may be said about the utility of periodically inspecting the cars by the State engineers, the regulations are certainly not of an onerous character, and while Continental countries are thus placing every facility in the way of automobilists, it would be strange if England were to continue to lag behind.

BAYLDON v. ROADWAY AUTOCAR CO., LTD.

On Tuesday last, 15th inst., in the King's Bench Court, before Mr. Justice Bucknill and a common jury, the above case was heard, it being the outcome of the collision between a Mors car driver by Mr. Edwards, of the defendant company, and Mr. O. H. Bayldon's Reading steam car, the latter being run into and damaged on Seven Bridge, Barnes Common, when taking part in the anniversary run to Southsea last November 16th. Mr. Bayldon's car was insured in the Ocean Accident Company. Mr. Kemp, K.C., for the plaintiff, called several witnesses, among them being Mr. Morris, of the Steamcar Accessories Syndicate, who had a seat on the Reading, and who was called to prove negligence in the defendant's driving, and Dr. W. Musson, of Hammersmith, to testify as to the clearness of the atmosphere.

Mr. Lynch, for the defence, questioned Mr. Edwards as to the fogginess of the day, and the trouble the exhaust steam from the steam cars was to all drivers following steam cars that morning. This was confirmed by Mr. Edgar Scamell, who, as the photographer for *The Autocar*, was a passenger on the defendant's Mors. Mr. Justice Bucknill fully appreciated the various points brought out, but confessed to no knowledge of motors.

The jury, amongst whom one at least was up in motor matters, after some discussion, found for the plaintiff damages £100.

The Duryea of 1896.

THE ADVANTAGES OF A MOTOR FROM A SURVEYOR'S POINT OF VIEW.

While on a brief visit to the Midlands last April Mr. T. Goldsworthy-Crump, the surveyor and engineer to the Taunton Rural District Council, gave us a call, and we took the opportunity of asking a few questions as to the advantages and general behaviour of a motor over other means of travel from a professional point of view.

We may say the district under Mr. Crump's care has an area of about 68,000 acres, and 320 miles of main and district roads, which entails about 7,000 miles travelling per annum, which has previously been done by cycle, horse, and railway.

Our first question was, what machine do you favour, and have you found it satisfactory?

After much consideration Mr. Crump replied: "I decided to have a tricycle, as it seemed to combine speed, easy storage, comparatively low first cost, and upkeep with the general handiness of a cycle. I therefore ordered what I consider the best machine of its class, an Ariel motor tricycle with 3¼ h.p. water-cooled engine and two-speed gear, which I have had almost in constant use since the beginning of July, 1901. On receiving the machine at the works I drove it home in about eleven hours, including stops, although I had not ridden an Ariel previously, and the valve levers are differently arranged from other tricycles. As to reliability I have kept every appointment to time, with the exception of one, when I was stopped by fog. I have had to pedal home twice, about three miles in one case, owing to dry battery being exhausted, and, in the other, to a broken inlet valve. I replaced the dry cells with two Peto and Radford accumulators, and fitted a new home-made inlet valve, and have had no further trouble. I had some bother with the two-speed gear, owing to imperfect adjustment, but this was remedied by fitting a new clutch. I consider a two-speed gear and a free engine absolutely necessary where steep hills have to be negotiated and many short stops made. This can only be appreciated after using a machine without this fitment."

"How did your council and workmen like the innovation?"

"At first my council were very adverse to its use, but now they are beginning to see its great advantages over all other means of transit for a surveyor of a big district. My men, however, do not share this view, as the following overheard conversation will show: 'What's think of the guvnor's new 'os, Bill?' 'I tell yer what 'tis, John, 'twas bad enough when he comed round on his cycicle, but now, when we think he's t'other end of the district he's on us agin. We never knows where 'e is now.' The roller men especially have greatly improved since the advent of the motor."

"How do you find the cost of running and upkeep?"

"One hundred miles (average travelling) costs about 1s. 3d. for petrol, 3d. for lubricating oil, and 1½d. for current, or, including tyres, between three and four miles running for a penny. Being a fair mechanic, and having a lathe, etc., the small repairs needed have been done by myself. I have just come from Bournbrook, where the machine has been examined. The engine required no adjustment whatever after its 6,000 odd miles. The gear wheels show no signs of wear, and the clutchshaft is but slightly worn on its square faces, which speaks well for their construction. I take the greatest care to see that everything is properly adjusted and lubricated every morning, and have rarely to stop on the road. The valves have been ground in once. The same piston rings and sparking plug have run throughout, and I have only had one puncture."

Mr. T. Goldsworthy Crump on his Ariel motor tricycle about to start on a two hundred miles journey.

"Generally you are well satisfied?"

"Yes; the machine will climb 1 in 5½ without assistance, and has plenty of speed. I consider for my particular work it is preferable to a car and any motor bicycle. Bad weather makes but little difference to the going, and winter work, with the machine well vaselined and a leather suit on, is not so bad as some people imagine. The amount of work that can be got through in a day would take three or four days with a horse and trap. I am afraid the various councils do not recognise this yet, but when they do, will, I trust, make a special allowance for use of motor, seeing that they obtain three to four times the service from their officer."

Correspondence.

We do not hold ourselves responsible for the views or opinions expressed by correspondents.

THE WESTERHAM HILL CLIMBS.

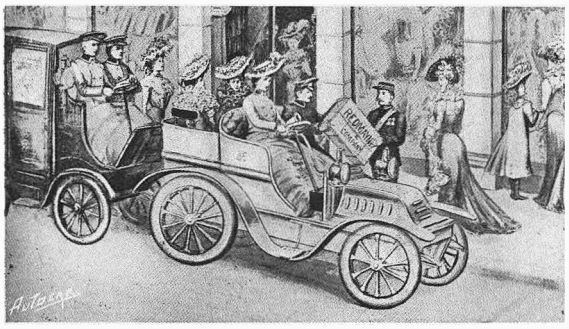
[2549.]—We notice that a lot has been said and written anent the results achieved by the motor cycle section at the Westerham Hill climb, and the advisability or otherwise of allowing pedalling in such tests. We think we are correct in stating that the idea in organising these trials is to ascertain the exact capabilities of a motor bicycle of a standard type, as sold to the public, but this fact seems to have been altogether overlooked by most of the manufacturers, with the result that motors of high power and very low gear were used. As at present there is no law forbidding motor bicyclists from pedalling up steep gradients, we fail to see why the rules governing the hill tests should debar a rider from the ordinary conditions that pertain when touring in the usual way. The general rider does not require a freak, but a handy mount that will give him good results under all reasonable circumstances, and one that does not fatigue him with a lot of unnecessary vibration.

The "Ormondes" used in the Westerham climb were standard machines in every respect, and none of them failed in the ascent.

THE ORMONDE MOTOR CO.,
A. GOODWIN.

HINTS TO AUTOCAR CONSTRUCTORS.

[2550.]—The enclosed sketch clearly shows that what is exercising the minds of all concerned is the question,



"What will he do with it?" Where are parcels to go on the modern car?

T. F. S. TINNE.

THE WOLSELEY CAR AND THE GORDON-BENNETT RACE.

[2551.]—As I have heard so many wrong statements regarding the cars our company sent over to Paris to take part in the Gordon-Bennett race, I thought you would perhaps like to hear the true facts of the case.

Until within about one month of the Paris to Vienna race taking place, we were not officially advised that the Gordon-Bennett cup race would be held at the same date and over part of the course, and this uncertainty, coupled with the fact that we were extremely busy and had in hand orders for the Admiralty of far greater importance, made us somewhat careless and neglectful of the cars we were building for the event.

The natural result was our cars had to be rushed through at the finish, and only one of them—the 30 h.p. car which we ran at Bexhill—had had any road trials at all before they were sent over to Paris. It may, of course, seem somewhat ridiculous to attempt to race cars under such conditions, but we have been so successful in trials previously, where the exigencies of the case compelled us to run cars which had had no preparations, that we decided to take them over, and hoped for the best.

In spite of all our efforts (and you may be sure we did our utmost), we found it impossible to get the 45 h.p. car (the one we were relying upon) ready in time to allow of its being passed by the authorities in Paris and weighed by the club. An extra day would have made all the difference. Only those who have been "through the mill" know the great difficulties that are placed in the way of any firm building a car with the parts made in England, and our only regret now is that we did not abandon our efforts in this direction, and enter the cars for the Paris to Vienna race instead. It would have saved several weeks' time, and, as events proved, have helped us to get at least one car through successfully. Our chief difficulties lay with the induction coils, though we also had trouble in getting English rims, inner tubes, and valves, all of which we had to get made specially.

As I found it impossible to get the 45 h.p. car ready in time, I decided to let Mr. Graham White drive the 30 h.p. car I had intended driving myself, and to go as mechanician on it. Just as we were entering Champigny to take our place at the start, the motor stopped, and, on examination, I was, as you may imagine, much disappointed to find that the crankshaft had broken. During the trials which we had made with the car in England, we had used a Bassée et Michel coil (French), and only put in the English coil we had had specially made in Birmingham when we sent the car to Paris. It was taken by road from Boulogne, and the coil gave trouble all the way when running at high speeds. We did not think for a moment that it would have broken the crankshaft, but we have since found out that this was the cause of our mishap.

At one time we found three of the tremblers working at once, and during the whole of the run through Switzerland we found it impossible to get the coil to fire the four cylinders properly except at intervals.

The second 30 h.p. car, which was to be driven by Mr. Callan, was given its first road trial from Boulogne to Paris, and in trying to get it through too quickly, the crank bearings were heated, and the shaft scored rather badly.

A new crank was sent over, but there was not time to put it in, and the car was, therefore, started, and ran for about the first thirty miles, but, as the bearings continued to give trouble, Mr. Callan decided to abandon the run. This decision was unfortunate, as it turned out, as, had he persevered, he would no doubt have got through all right. The car was run back by road to England the next day, and gave no trouble whatever.

When I found the crankshaft broken on our car, I sent back to Paris for the spare one, and by dint of considerable hard work, we managed to get the motor back in its place again by 3 p.m., and started away soon after four o'clock for Belfort. As the controls were all closed and the bad corners not "flagged," we could not make such good progress as we could have wished, and by the time we arrived at Chaumont, it was getting rather dark. We stayed here about an hour to get something to eat, as we had had nothing since ten o'clock the night before.

It was distinctly novel, to say the least of it, driving at high speeds on a dark night in a country we knew nothing about, but, by plodding on and asking our way, we eventually arrived at Belfort at 3.20 a.m. Not having had any sleep for two nights, we were fagged out, but the sight of the other cars getting ready to proceed on the second day's journey was too much for us, and we decided to join the procession.

After hunting about this evil-smelling town for nearly two hours for our lubricating oil, we started away without anything to eat, and, with the exception of a puncture in one of the front tyres (North British), we arrived safely at Bregenz, without having experienced the slightest trouble with the car from the time we left Paris. As we were compelled to take the regulation times between the various places, we could not make up for any we had lost, but were compelled to wait at some controls for half an hour.

After three days and two nights without any sleep, and only two meals, it is not to be wondered at that we were both thoroughly worn out. As a matter of fact, we had to take it in turns to drive, and it is somewhat difficult to give an adequate idea of the strain entailed in driving under such conditions over the fearfully dusty, hilly, and tortuous roads as we found in Switzerland, in a tropical heat.

We unfortunately overslept ourselves the following morning, and only got away about two hours after the others had all left. Long before we reached the top of the Arlberg Mountain, we had passed quite a dozen cars, most

of which were being pushed up or dragged up with horses, including a 70 h.p. Panhard. Our car, much to my surprise (as the coil was again giving trouble), simply romped up, and we afterwards safely negotiated the descent on the other side.

Just after leaving Landeck, and when we were within about ten kilometres of where De Knyff broke down, the motor commenced to pound terribly, and, in spite of all we could do to regulate the coil, our fears that something serious would happen were soon realised, and the motor came to a sudden stop. On examination, we found that the crankshaft had again broken in the same place. There is no doubt, of course, that the shafts broke in the weakest part, but I am quite certain that they would never have broken had we used French coils. We had no trouble whatever with any other part of the car, and we are pleased to say that the Dunlop tyres on the driving wheels, the Coventry and Renold chains, and the springs specially made for us by Richards, of Spring Hill, Birmingham, went through without a hitch.

In conclusion, I would just like to point out the following reasons why I think we should at any rate receive some credit in spite of our failure to win the race:

1.—We were the only firm who were sportsmanlike enough to back up our club in making the challenge. Had we not done this, and paid the entrance fees, there would have been no Gordon-Bennett race this year.

2.—We insisted on the race being held over the two days, instead of being finished at Belfort. This was much against the wishes of the French Club and the committee of our own club, who considered we were making a great mistake.

3.—Our car ran through much further than either the Mors or the Girardot cars, and almost as far as the Panhard.

H. AUSTIN.

LEAKY WATER-JACKET.

[2552.]—With reference to my letter (2548) and the suggestion made by the Wolseley Co. that the leak was due to carelessness in allowing the water supply to run out, this, in my case at any rate, was not so. The tanks were (and always are) examined at every stop and even under way, and have always been kept full. Water is carried independently of the tanks on the car for this purpose.

Throttle Lever Working out of Position.—Ample provision did not exist for adjustment, the pin being too short. Only by putting washers under notched plate was it possible to bring the plate up to the pin.

Play of Wheels.—This amounted to a quarter of an inch, and could only be reduced by putting washers behind the inner ball race on that side of the hub nearest the car, and so bringing the hub further up the axle to the lock nuts.

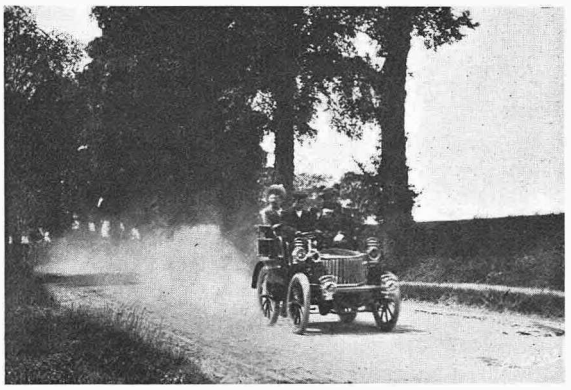
F.R.

THE PROPOSED NEW ACT.

[2553.]—"Save us from our friends!" the thinking automobilist may well exclaim after a perusal of Mr. Scott Montagu's proposed new Act, and the sentiments expressed in your last issue will, I feel sure, receive the unanimous support of the great majority of the motoring world, who desire to pursue their pastime in peace, and who do so unselfishly and with due regard to the feelings and rights of other road users. Because a few—a very small minority—drive "roaring forties" on British high roads, and take risks both to themselves and the public, which no one can find any enjoyment in but themselves, why should the great mass of autocarists, who use their cars rationally and with discretion, be compelled to label their carriages with hideous numbers, and, moreover, expose themselves to the possibility of far greater injustice than can ever be the case under the existing law—bad as that is—and that, too, without any *real* good being done or assistance to the authorities given. I contend that numbering will prove quite ineffective to detect the real offenders, and will lend itself to mistakes far more difficult to disprove than even the present police timing estimates, for, as every autocarist knows, the real scorcher, like the cuttlefish, vanishes in a cloud—in this case, of dust—in which it is either quite impossible to see the car (let alone the number on it), or, if it is seen, it is but "as through a glass, darkly"; and the impossibility of positively identifying numbers under such circumstances, added to the natural excitement of the moment, will not only render the detection of the real offenders uncertain and at times impossible, but, also, owing to inaccuracies in number reading, result in many innocent automobilists being put to inconvenience and expense in proving an *alibi*, or even lead to their unjust conviction should they happen to be on the same road at about the same time as the offender whose number has been incorrectly taken down as theirs. Again, I contend it would place automobilists in a far worse position than ever now, for, even if numbering is accompanied by a removal of the speed restrictions, it will not remove prejudice from the magisterial and police mind, and, whilst now the policeman's word is taken as to the speed of travel, then it will be accepted as to whether the alleged offender is "furiously driving," within the meaning of the Act; and, whereas now the motorist *is* stopped and told what he has to expect, and so given a chance to obtain rebutting evidence, then he will only learn, as the result of his number having been taken, that he is supposed to have been doing wrong—perhaps three weeks previously—when the incidents of his drive may have faded from his recollection, and he has no means of obtaining evidence in his defence. There are many more objections to the proposal, but the above will suffice to show that the remedy will be worse than the disease, and, if it is being put forward, as I surmise it is, as "a sop to Cerberus," the sooner it is withdrawn the better, or the beast may take it, and then truly our last state will be worse—far worse—than the first.

HENRY STURMEY, HON. M.C.E.I.

We are compelled to hold over a number of letters through pressure on our space. Several answers to "Queries of General Interest" are also unavoidably withheld for the same reason.



An 8 h.p. Gillet-Forrest car on the road to Henley.

Messrs. Thos. Ayliffe and Sons, Cardiff, inform us that they have extended their works, and are now able to store cars. They have the sole agency for the genuine De Dion for Glamorganshire and Monmouthshire. The firm also stock a good supply of spare parts, petrol, and motor oils, etc.

* * *

There seems to be no little prejudice against motors in mid-Wales. Only recently two well-known Midland automobilists were summoned at Aberystwyth for furious driving. As a matter of fact, they were at the top of a very dangerous hill running into the village of Tal-y-Bont (a place very well known to both of them), and they were proceeding at a speed well within the legal limit. However, it is pleasing to know that the magistrates dismissed the case after the conditions had been fully explained by the solicitor for the defence. The moral is that automobilists should be exceedingly careful to keep well within the legal limit when touring in mid-Wales.

Flashes.

Two of the five Clément cars which ran so successfully in the Paris-Vienna race—the pair driven by M. Tart and M. Volatinum—returned to the French capital by road.

* * *

It is not to be marvelled at that the Lanchester cars are growing rapidly in favour. We hear incidentally that the Lanchester Engine Co. are very fully booked up with orders, amongst which are commissions for cars for the War Office, his grace the Duke of Portland, the Marquis of Zetland, and last, but assuredly not least, that poetic apostle of imperialism, Rudyard Kipling. We never see a Lanchester pass through the crowded streets of the West End of London, and they pass very frequently, but we overhear encomiums from the wayfarers upon their appearance, quietness, and comfort.

* * *

Although only a small thing, it often causes great annoyance and delay to find, when a plug breaks down and a new one has to be fitted, that the spare plug has no washer, particularly as it is often a matter of difficulty, and occasionally an impossibility, to get the washer off the old plug. We know that these washers can be bought at most motor depots separately, but all these separate things give unnecessary trouble, and it would be much better if an absolutely regular practice were made of sending out every plug fitted with its washer, the more so as the plug is practically useless without this necessary adjunct.

* * *

The *Ormskirk Advertiser* contains an interesting account of a week's tour in England, which was recently carried out by six well-known local farmers. Starting from Liverpool, fourteen shires were passed through, among the places visited being Chester, Hereford, Malvern, Worcester, Cheltenham, Bristol, Salisbury Plain, Newbury, Reading, Windsor, St. Albans, Coventry, and Lichfield. In all, upwards of six hundred miles were covered. In addition to proving most pleasurable, the outing seems to have been instructive and educational, as in the account of the tour frequent references are made to the nature of the land, methods of farming, varieties of cattle and crops seen. Throughout the tour the roads were found to be in splendid order, and from start to finish there was not the slightest hitch with the car. The name of the autocar used is not given.

The Scottish Automobile Club at Joppa.

The Motor Car Depot of Liverpool, of which Mr. William Lea is the proprietor, and Mr. Archibald Ford the general manager, is henceforth to be known as the Motor Car Depot.

* * *

Mr. A. W. Bell, High Street and London Road, Marlborough, asks us to state that he will be pleased to supply petrol, etc., any day (Sundays included) to autocarists passing through Marlborough.

* * *

A correspondent, who is about to drive his car from Warwick to Ayr, would be glad of the advice of any reader familiar with the roads in this direction. He desires to avoid large towns and hilly country as far as possible.

* * *

The Michelin tyres which Monsieur Oscar Grégoire (representing the Belgian firm of Michelin) used in his Germain tour of 2,484 miles with a Germain car of 20 h.p. appear to have stood the journey excellently, notwithstanding the bad roads, the great speed, and the extreme heat.

* * *

Messrs. The Begbie Manufacturing Co., referring to the large quantity of cheap imitation Aster parts that are now being offered for sale, and the undoubted annoyance and inconvenience suffered by owners of Aster engines who purchase them, inform us that all genuine "Aster" parts are stamped with a star, so that purchasers can always see whether they are buying genuine goods or not.

* * *

Mr. Joseph Milner, whose grandfather invented the first Milner safe, is very enthusiastic in regard to motor cars. He has just purchased a 3½ Benz Victoria from Mr. William Lea, of the Motor Car Depot, which he intends to use in the narrow lanes of Devon. This makes the third car he has had since February, Mr. Archibald Ford having now sold him a 4½ h.p. Rochet, a 9 h.p. Darracq, and now this Benz Victoria.

* * *

Messrs. Friswell, Ltd., inform us that they have taken the premises lately occupied by the Automobile Mfg. Co., Ltd., in Long Acre, and are opening them under the management of Mr. Guy Lewin, who will have in stock a general assortment of carriages, including the new 9½ h.p. Clément, Du Pont bicycles and carriages, Napier, M.M.C. carriages, etc., etc., and who will be open to receive for sale on commission any first-class motors, the property of private clients. The Holborn Viaduct depot will be kept exclusively for the sale of Peugeot carriages, and Holland Park exclusively for sales by auction.

* * *

It is reported—in the *Star*—that much damage is caused to the surface of the Bath Road by the automobile traffic, which has of late assumed large dimensions. The Slough Council have asked the Local Government Board to consider the question. They will probably be informed that they must keep their roads in a condition to carry all legal traffic, and very properly too. The growling, no doubt, refers to the heavy lorry traffic, which, originated by Messrs. Fuller, Smith, and Turner, has so largely increased of late years.

The British Automobile Syndicate, of 97 and 98, Long Acre, W.C., inform us that their new repair department is now in working order under the supervision of Messrs. Panhard and Levassor's late Chef d'Equipe. A large stock of spare parts for different types of cars, particularly for Panhards, is carried. The syndicate state their readiness to undertake all descriptions of repairs.

* * *

An automobilist is credited with the feat of driving up the winding, stepless stairway to the top of the Round Tower (120ft. high) at Copenhagen, skilfully steering the car round and round within the limited space of 12ft.

* * *

It is stated that the Russian military authorities have given to an English firm an order for two powerful motor cars and six trucks, which are to be used during the next army manœuvres to convey provisions and baggage.

* * *

Leamington Town Council have decided to obtain a motor tender for the use of the fire brigade, by which firemen and appliances can be conveyed at two minutes' notice to the scene of the fire.

* * *

To frame makers. Messrs. Pritchetts and Gold, Ltd., of Feltham, Middlesex, are desirous of placing orders for tubular frames. If any English maker can supply their requirements they are ready to do business, but up to the present they have been unable to get what they want. It is regrettable that such orders should have to go to Belgium or France, but unless what is needed is forthcoming in this country, Messrs. Pritchetts and Gold will be obliged to take this course.

* * *

On returning from Ascot races, Colonel McCalmont's autocar was policed into Camberley at thirty miles an hour. On going again next day it was constabled for an alleged thirty-nine miles an hour. Two charges—£5 and costs.

* * *

At a municipal engineers' conference at Bristol the many uses to which motor vehicles can be put was one of the subjects discussed—a delegate stating that in his capacity as a county surveyor he was able with an autocar to do in thirty-six hours what used to occupy him a week, and at a quarter less cost.

* * *

Those who contemplate touring westward from Nice and Mentone along the coast of the Gulf of Genoa will be glad to know that a thoroughly well-equipped garage has been opened in the Rue Rome, Genoa. Not only are all requisites kept in stock, but there is a competent staff of mechanicians.

Torquay is moving in the matter of obtaining a municipal motor omnibus service instead of tramway cars.

After the completion of the competitive motor-cycle trials, held at Westerham Hill, on 5th inst., Mr. E. Perks, the winner of both classes, rode his 2¾ h.p. Singer motor bicycle up the hill with his chain in his hand to show that there was no deception. Our illustration depicts him repeating the performance up Stoneleigh Hill.

The new Prime Minister a short time ago left the House in an autocar, and after a while noticed a cyclist hanging on for all he was worth. "Shall we pace you?" enquired Mr. Balfour genially. No answer was vouchsafed, but when two constables pulled up the car the energetic cyclist proved to be a policeman taking records of the speed of the distinguished pacemaker.

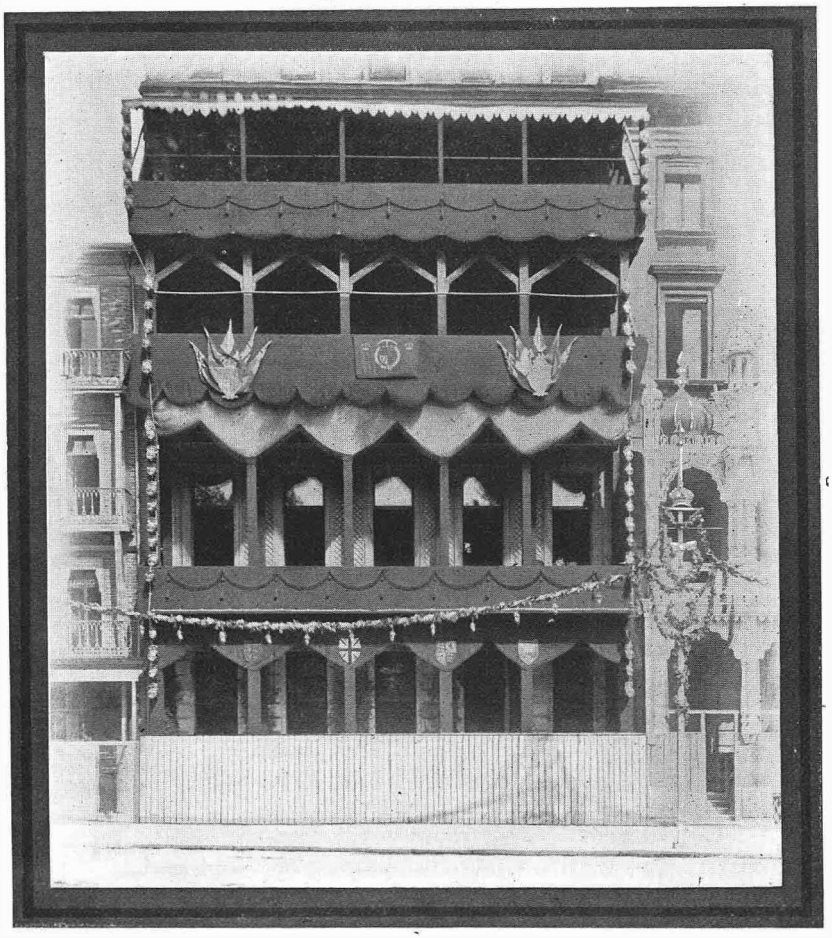
* * *

Those who stock petrol should bear in mind that autocarists sometimes require a less quantity than that contained in the ordinary two-gallon tins, and should lay themselves open to supply the spirit in gallons, or even half-gallons, if required. As motor cycling becomes more popular the smaller tins will no doubt be more generally stocked. This will also be a convenience for autocarists who may only need a small quantity to replenish a low tank while they have the opportunity, and who do not wish to buy more than is necessary for that purpose.

Last week we referred to a 24 h.p. De Dion as being among the starters in the Paris-Vienna race. This was a mistake, which originated from the official list, as the vehicle in question was not a De Dion, but a Panhard.

* * *

We are given to understand that the Daimler Co. has taken orders from Sir William Gordon Cumming and Mr. F. Popham for carriages exactly similar to the one built by the company to the order of His Majesty the King. Lord Windsor and Sir Charles Seely, Bart., have also commissioned the Daimler Co. to build them 12 h.p. carriages. Among the recent purchasers of 22 h.p. vehicles is Mr. J. S. Morgan, jun.



The Automobile Club House in Piccadilly, W., as decorated in honour of the Coronation.

The possession of an automobile may prove at times a matter of considerable profit to a fruit grower who can come at ready markets for his produce. Consider a case at Tewkesbury, where strawberries fresh and of fine quality are seldom purchasable at less than 6d. per lb. The other day a fruit grower of Evesham put a cargo of splendid fruit on an automobile waggonnette and ran the load the fifteen miles into Tewkesbury, where it was rapidly disposed of at 3d. lb., to the great satisfaction of both vendor and purchasers. Indeed, so many had to go empty away that the grower turned up in the afternoon with another load, and rapidly disposed of that at the same price.

Mr. James Collins, an autocar driver, of Baggrave, was fined £2 and costs for exceeding the speed limit. He was credited with having covered five hundred yards in forty seconds, though he swore in evidence that his speed was not more than eight miles an hour.

* * *

Mr. A. F. Garnham, St. Margaret's, Ipswich, has just supplied Mr. F. W. Wilson, M.P. for Mid-Norfolk, with a De Dion car, tonneau body, painted white, with blue upholstering, these being the hon. member's colours.

* * *

In referring to Mr. H. R. Kirk's handsome 16 h.p. Panhard last week, we omitted to mention that this car was supplied by the Motor Power Co., 14, New Burlington Street, Regent Street, W.

* * *

M. Leon Serpollet is apparently aweary of competitions. He announces that after the Laffrey Hill trial he will not enter a vehicle for or take part in any further competition before the Nice meeting of 1903. For this meeting he is about to address himself to the design and construction of special steam-propelled speed vehicles. Hitherto the Serpollets, which have taken part and performed so well in past events, have been road cars, and not racing machines. When M. Serpollet turns out what he regards as a racing Serpollet we ought to see something like flying.

* * *

Messrs. Mann and Overton, of 25, Mortimer Street, London, the sole agents for the well-known Georges Richard cars in Great Britain, inform us that they have opened a large department at the above address for the stocking and sale of motor accessories, parts, and all articles necessary to the automobilist's economy. Messrs. M. and O. remind us that in the Paris-Vienna race all the five G.R. cars entered came safely through. Three of these vehicles were of 20 h.p., from the designs of Monsieur Brasier, late manager for the Mors Co.

* * *

Autocarists are cautioned that the police are setting traps near Wallingford on the road between Reading and Oxford.

* * *

Messrs. Tamplin and Makovski, Ltd., of 15, James Street, Haymarket, inform us that they have been appointed official repairers to the A.C.G.B. and I.

* * *

Mr. E. A. Chard, engineer, Bradpole Road, Bridport, informs us that he is in a position to undertake repairs to motor cars, and also stocks petrol and spare parts.

The Swiss War Office have set down £800 in their army budget for the purchase of an automobile for the petrolic instruction of army officers.

* * *

Owing to the increase in their business, the United Motor Industries, Ltd., have found it necessary to remove to larger and more convenient premises, and their address in Paris in future will be 10, Rue Mogador, instead of Rue Meyerbeer, where they have been so many years.

* * *

The Century Engineering and Motor Co., Ltd., inform us that they have raised the prices of their light cars considerably. The 9 h.p. cars which used to figure at £325 are now 350 guineas, and the double-cylinder 12 h.p. cars have been raised from £375 to 400 guineas. The firm state that they were obliged to take this course in view of the great number of orders on their books and the excellent work they are putting into the cars. The Century tandems remain as before as regards price, although they have been improved in several respects.

* * *

A motor-car service for passengers is about to start at Arbroath.

THE NEW LOCOMOBILE VICTORIA RUMBLE.

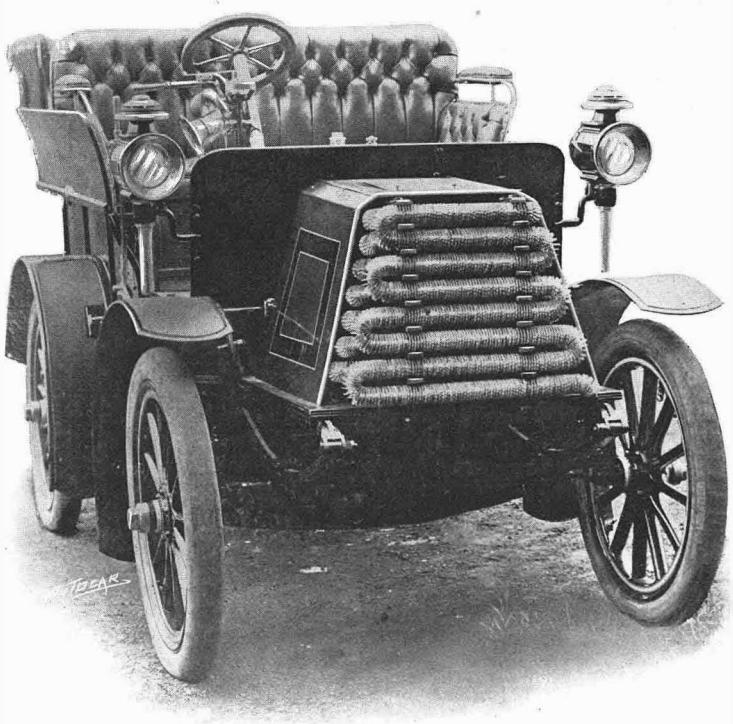
This is a new type of Locomobile, and only a limited number have been made. The vehicle runs with extreme smoothness, almost as though it was hung on C springs, and has a petrol capacity of sixty to eighty miles, and carries sufficient water for a thirty miles run. It has been bought by Mr. Russell Skinner, who is shown at the helm.

Mr. S. F. Edge and Mr. Montague Napier, the driver and constructor respectively of the Gordon-Bennett Napier car, are to be the guests of the Automobile Club of Great Britain and Ireland at a dinner, to be held at the Whitehall Rooms, Hotel Metropole, London, on Wednesday next, the 23rd inst., in congratulation of their late success in the Gordon-Bennett race. It is hoped that the Gordon-Bennett cup will before then have been formally received from the Automobile Club of France by the home club.

* * *

We would draw particular attention to the letter which appears elsewhere over the signature of Mr. A. Austin, of the Wolseley Tool and Motor Co., wherein he details in a plain and straightforward manner the woes and worries from which he and his *confères* suffered in getting the Wolseleys ready for and through the Gordon-Bennett event as far as they got. It would appear from what has fallen from both Mr. Edge and Mr. Austin that it is next to impossible to obtain satisfactory induction coils of English manufacture for such cars as were driven by these gentlemen. Our own people can produce satisfactory accumulators; why cannot they provide us with reliable coils? At present piles of money are going out of the country for these accessories. What is the trouble?

THE 7 H.P. TURRELL "VIBRATIONLESS" CAR.



This vehicle was built to the order of Sir J. Thursby, Bart., Ormerod, Lancashire.

As we go to press we learn that that keen sportsman Mr. Mark Mayhew is the first to place an order for one of the 1903 Gordon-Bennett Napier racers referred to elsewhere.

* * *

What looks like a plated cap of a wheel was seen to fall off a car in Wilton Place, Knightsbridge, last Sunday. The owner can have the same by giving his address to the United Motor Industries, Ltd., 42, Great Castle Street, London, W.

* * *

We are credibly informed that the police are still busy (particularly on Sundays) with their apologies for stop watches and their tape on the Staines Road between Hounslow Heath and Bedfont Church. This activity is due to the promptings of a member of the parish council.

* * *

If the experiences of a member of the A.C.G.B. and I., when obtaining French driver's certificate, as detailed in *Notes and Notices* of the 10th inst., are likely to be those of every English automobilist who wishes to tour in France on his car, then we fear the number of such tourists will be few indeed. The method, or want of method, rigmarole, and irritating shilly-shallying from which this gentleman suffered, is worthy of our own War Office, which in such matters is very hard to beat.

* * *

The Slough police were very active on Sunday last against automobilists. Their tactics, however, differed somewhat from those of the Sussex and Surrey police, as they watched cars from the beginning of Slough town to the middle, and took several names. A correspondent, writing in reference to this matter, deplores the fact that some autocarists do not use discretion in passing through towns. Unless some moderation in speed is exercised the Bath Road, near London, will become unpleasant to ride upon owing to the necessity of a keen outlook for Robert.

* * *

In connection with the annual congress of the Society of Chemical Industry, which was held this year at Liverpool, the Liverpool Self-propelled Traffic Association arranged some sixty seats to convey visitors to the Widnes chemical works of the United Alkali Co., Ltd., on Thursday, the 10th inst. The cars taking part in the run were: 18 h.p. Daimler brake, carrying sixteen passengers, and driven by Mr. Leonard Williamson, of Southport; Mr. Walter Jackson's 10 h.p. Daimler tonneau, with Mr. Max Muspratt and party; Mr. Henry B. Hemmens' 6 h.p. Argyll; Captain Thornycroft Vernon's 7 h.p. Panhard; Mr. W. P. Curphey's 7 h.p. Panhard; Captain Thornycroft Vernon's four-seated Locomobile, driven by Mr. T. H. Cookson; and cars hired from the Road Carrying Co., Ltd. The weather was exceedingly bad, rain being almost continuous, and several other members who had promised to attend did not put in an appearance, which led to some difficulty in arranging the seats. Mr. Walter Jackson, of Bradford, had driven from Harrogate on his 9 h.p. Daimler the previous evening, and returned to Bradford, leaving Liverpool about six o'clock on the evening of the run.

Several of the illustrations relating to the Paris-Vienna race appearing in this issue are reproduced from photographs kindly supplied to us by Mr. D. Farman.

* * *

A certain cycle agent and motor car repairer on a main road out of London is beginning to lose faith in autocarists. He states that he has lent to different automobilists this season, and has not had returned to him, one King Dick spanner, value 2s. 6d.; one big spanner, value 10s.; and a large pump. What wonder that he should now ask for a deposit when motorcarists seek to borrow tools? A word to the wise will in this matter, we feel sure, be sufficient.

* * *

The visit of His Highness Ras Makonnen, envoy extraordinary and plenipotentiary for the Emperor Menelik of Abyssinia, at the Coronation, created a great deal of interest in Birmingham. Ras Makonnen is a man of considerable distinction, and it was he who directed the successful operations against the Italians. His Highness is a nephew of the Emperor Menelik, who has no direct descendant, and is consequently heir presumptive to the throne of Abyssinia. While in this country he has been wonderfully busy sightseeing, and last Sunday Mr. Timson had the honour of driving Ras and his suite a distance of about twenty miles by motor car, to Lady Meux's beautiful estate at Theobald's Park. This was the first time His Highness had ever ridden in a motor car, and he was most highly interested and delighted with the trip.

* * *

Some heavy fines have been inflicted upon autocarists for alleged furious driving during the past few days. As noted elsewhere, the Surrey magistrates ordered Col. McCalmont's driver to pay £10 and costs for driving home from Ascot races at a speed which the police estimated at thirty miles an hour, while Mr. J. R. Egerton, of Northwick, was credited with a similar speed at Bradford, and was fined £4 and costs. Mr. Ernest de Wilton, of Bayswater, was fined £5 and costs at York Castle for a similarly fictitious speed. A cyclist, who was riding alongside the car was asked to pay 5s. and costs. These are merely a few samples of the cases that have lately come before various benches of magistrates; a full record would occupy more space than we have at our disposal. Let us hope that this outburst of persecution is but the storm which precedes a calm.

THE ACTION AGAINST EARL DE LA WARR.

The action brought by Mr. Mayner against Lord de la Warr to restrain an alleged infringement of his rights by the holding of the forthcoming motor races at Bexhill on the De la Warr estate, was again mentioned to Mr. Justice Farwell in the Chancery Division on Friday last week, owing to a misapprehension arising as to when the next races would be held. Mr. Upjohn, K.C., for the plaintiff, said he had discovered that the races were to be held to-day, the 19th inst., which was much earlier than they had anticipated, and this being so, counsel asked his Lordship if he could see his way to interfere, though the pleadings had been closed.

His Lordship, after hearing Mr. Jenkins, K.C., and Earl de la Warr, who stated that alterations had been made in the track, said he did not see that any irreparable injury would be done by the proposed meeting, and declined at this stage to interfere.

THE FORTHCOMING BEXHILL AND WELBECK SPEED TRIALS.

The preliminary announcement of the Bexhill August meeting was issued by the Automobile Club at the moment of going to press with our last issue. Since the May meeting some alterations have been made in the rules and classes, and a new feature has been introduced in the shape of a handicap race. An important alteration has been made in the definition of a tourist car. Rule 2, which dealt with this, read as follows:

"Definition of a tourist car.—Cars entered for the tourist section shall be of a recognised tourist type, and shall be accepted by the Races' Committee, the Races' Committee to decide whether a vehicle is qualified to run as a tourist vehicle or not. Passengers must be accommodated with seats conveniently and with comfort. The cars must be similar to the cars which are sold in the ordinary way. The cars must carry their full complement of passengers, and must be fitted with mudguards."

To this a more complete definition of a tourist car has been added, which reads:

"High-powered racing machines will not be admitted to the tourist section, irrespective of whether they are fitted with touring bodies or not. For instance, 50 h.p. Napiers, 40 h.p. Panhards, 28 h.p. Mors, 40 h.p. Mercedes, and cars which, in the opinion of the committee, are fitted with engines giving over 30 b.h.p., will not be admitted to the tourist section."

This new definition will be very welcome, as it definitely bars all racing machines which have been specially fitted with touring bodies in order that they could compete in this class.

A noticeable difference, in comparing the two programmes, is the reduction of the top weights in relation to seating capacity in the tourist section. This reduction of weight has the effect of cutting out the classes for voiturettes and light voiturettes, as both these are now included in the light car class. The reduction of classes should secure larger entries and produce better sport.

Motor bicycles have no separate class, but are grouped in motor cycles, and are handicapped, the weight limit in this class being raised from 2 cwt. to 4 cwt. 3 qrs. 20 lbs.

The handicap race should prove a very attractive feature, as it is open to all classes of vehicles, irrespective of weight. This event will be run off in heats, and as far as possible a scratch car will be put into each heat.

PROPOSED PROGRAMME—BEXHILL.

TOURIST SECTION.

Class A.—Motor cycles (handicap), open to motor cycles of all kinds, irrespective of weight, power, or number of wheels, provided that they weigh under 250 kilogs. (4 cwt. 3 qrs. 20 lbs.) Entrance fee, half-a-guinea.

Mr. Ernest H. Arnott: One 2 h.p. Werner motorcyclette in Tourist Section, Class A, Bexhill.

Class B.—Scratch race for light cars (except steam and electric cars). Cars weighing less than 14 cwt., with seats for four persons; less than 13 cwt., with seats for three persons; less than 12 cwt., with seats for two persons. Entrance fee, one guinea.

Mr. Clarence Knight Gregson: One 12 h.p. Gladiator in the Tourist Section, Classes B and M, Bexhill.

Messrs. Dennis Bros., Ltd.: One 8 h.p. Dennis car in Tourist Section, Class B, Bexhill and Welbeck.

One 7 h.p. Benz in Tourist Section, Class B, Welbeck.

Class C.—Medium cars (except steam and electric cars). Scratch race. Cars weighing less than 17 cwt., with seats for four persons; less than 16 cwt., with seats for three persons; less than 14 cwt., with seats for two persons. Entrance fee, one and a half guineas.

Messrs. Hewetson: One 12 h.p. Benz in Tourist Section, Class C, Welbeck.

Class D.—Cars weighing 17 cwt. and over (except steam and electric cars). Scratch race. Entrance fee, two and a half guineas.

The Motor Manufacturing Company: One 20 h.p. M.M.C. in Tourist Section, Class D, Bexhill and Welbeck.

Mr. J. Gorham: 22 h.p. Daimler in Tourist Section, Class D, Bexhill and Welbeck.

Messrs. Hewetson, Ltd.: One 12 h.p. Benz in Tourist Section, Class D, Welbeck.

Class E.—Scratch race for touring steam cars. Entrance fee, one and a half guineas.

The Speedwell Motor and Engineering Co.: Two 6 h.p. Gardner-Serpollet in Tourist Section, Classes E and M, Bexhill and Welbeck.

Mr. Harry J. Swindley: One 6 h.p. Weston steam car in Tourist Section, Class E, Bexhill and Welbeck.

Class F.—Scratch race for touring electric cars. Entrance fee, one and a half guineas.

No entries.

SPEED SECTION.

Class G.—Scratch race for motor cycles, irrespective of weight, power, or number of wheels, provided that the vehicle weighs less than 250 kilogs. (4 cwt. 3 qrs. 20 lbs.) Entrance fee, half-a-guinea. If there are not three starters and the winner covers the flying kilom. in 63⅘s. (thirty-five miles per hour), he receives first prize; second will receive a silver medal.

No entries.

Class H.—Scratch race for racing voiturettes. Vehicles under 400 kilogs. (7 cwt. 3 qrs. 14 lbs.), except steam and electric cars. Entrance fee, two guineas. Over the whole course. Driver only; no second passenger. In heats of two. If there are not three starters and the winner covers the kilom. in not more than 55s. (forty miles per hour), he receives first prize; the second to receive a silver medal.

The Hozier Engineering Co.: 8 h.p. Argyll in Speed Section, Class H, Bexhill.

Class J.—Light racing cars. Vehicles under 650 kilogs. (12 cwt. 3 qrs. 5 lbs.), except steam and electric cars. Entrance fee, three guineas. In heats of two. If there are not three starters and the winner covers the flying kilom. in not more than 49s. (forty-five miles per hour), he receives first prize.

No entries.

Class K.—Racing cars weighing less than 1,000 kilogs. (19 cwt. 2 qrs. 20 lbs.), except steam and electric cars. Entrance fee, four guineas. In heats of two. If there are not three starters and the kilom. is covered in not more than 40s. (fifty-five miles per hour), the owner of the car covering the distance within the time limit receives first prize.

Mr. Chas Jarrott: 70 h.p. Panhard in Special Section, Class K, Bexhill and Welbeck.

Class L.—Scratch race for the fastest vehicle. Race for motor vehicles of any power or weight, propelled by any form of motive power, and open to vehicles which are also running in any other class.

No entries.

HANDICAP RACE.

Class M.—General handicap. Open to all classes of vehicles, irrespective of weight, and whether they have or have not taken part in other competitions.

Mr. E. H. Arnott: One 2 h.p. Werner motorcyclette in Tourist Section, Class M, Bexhill.

Class N.—Competition for appearance.

NOTE.—In all speed classes, unless there are three starters, the winner will not receive the prize unless he covers the kilom. within the prescribed limit.

In the general handicap heats will be drawn, and as far as possible a scratch vehicle will be put in each heat.

No entry can be received after July 26th.

WELBECK SPEED TRIALS.

In the programme for Welbeck speed trials on Friday, 8th August, the classes will be the same as at Bexhill on 4th August, except that there will be no competition for appearance.

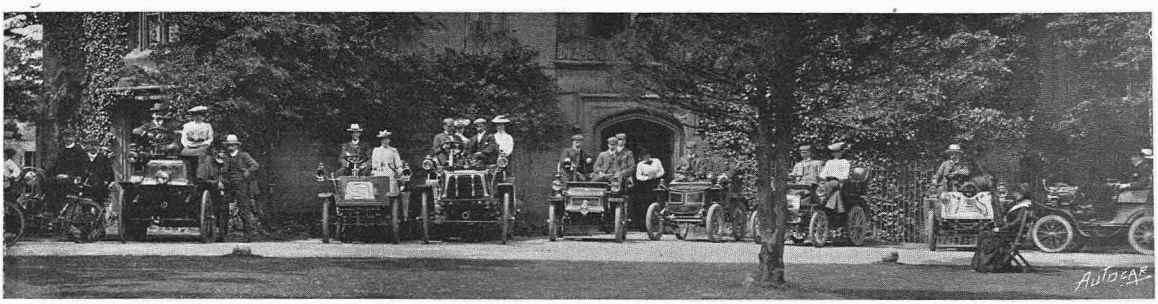
The events will be run against the clock over the "flying kilom." Each car will run once each way over the course, and the time recorded will be the mean time for the two runs.

The entrance fees will be the same as at Bexhill, except in respect of vehicles which are entered in the same class at Bexhill: such vehicles may enter on payment of twenty-five per cent. of the Bexhill fee.

A FRENCH HILL-CLIMBING CONTEST.

The Automobile Club of Dauphiné, France, has organised a very interesting automobile competition for to-morrow (Sunday). The hill to be climbed is that of Laffrey, on the high road between Grenoble and Gapby la Mure. For about seven kiloms. (4.3 miles) the route, running round the sides of the mountain of Correx, rises by a gradual slope of 1 in 10.5. The hill begins at the bridge of La Romanche, at Vizille, with 1 in 21, then continues with 1 in 14, and finally with an average of 1 in 11, without a yard of flat surface. Half way a rise of 1 in 14.4 is all the rest afforded. Actually, in 6,650 metres, the average rise is 1 in 10. By the scale published by the Automobile Club of Dauphiné, the maximum is 1 in 8.4. There are, indeed, 1,700 metres which rise more than 1 in 10, and 2,650 metres of from 1 in 10 to 1 in 11. The start will take place at seven in the morning on the 20th inst., at the exit of the village of Vizille, at the bridge of La Romanche, the return being at the entrance of the village of Laffrey, on the crest of the hill. A very interesting section in the competition will be that for vehicles conveying passengers, and this especially in the district chosen, which is visited annually by 60,000 tourists, necessitating a hundred Alpine cars, besides brakes, landaus, and other conveyances, as well as about six hundred horses, to be kept in constant readiness. The management of this important transport business is in the hands of Messrs. Repellin, Traffort, Bigillon, and Co., who are under an agreement with the Paris, Lyons, and Mediterranean Company, and certain societies of Grenoble and Dauphiné, thus to supply tourists with the means of seeing the beauties of the neighbourhood, and this firm fully recognises the advantage the automobile would be in their business, especially when taking the length and steepness of the journeys to be undertaken into consideration. They are extremely anxious to see a satisfactory automobile diligence constructed, but consider that up to the present no vehicle has been presented to the public capable of facing such hills as those of Vercors, Oisans, and the rocky eminence of the Grande Chartreuse. The hill contests at La Turbie did not afford any real assurance from their point of view, that hill not being sufficiently steep, and they therefore look forward to the contest at Dauphiné as being extremely valuable. The gentlemen have written to the French club expressing their extreme satisfaction at the projected experiment. The competing vehicles will carry twenty-one passengers, and must do the journey in from one hour to an hour and a half. At present the horse-car conveys thirty passengers, and takes two hours for the route prescribed for the automobiles, but it is in the saving of wear and tear, and the lessening of all expenses connected with stabling, that the transporting firm consider that the great advantage would lie.

THE MANCHESTER AUTOMOBILE CLUB.



Some of the cars which took part in the run to Leasowe on Saturday last.

The seventh run of the season by the Manchester A.C. took place on Saturday last, the rendezvous being Leasowe, which is situate at the extremity of the Wirral Peninsula between Hoylake and New Brighton, a distance from Manchester, by either of the two routes available *via* Chester, of about sixty miles, the surface of the roads in either case being all that could be desired. There was no procession of cars, either on the outward or return journey, the members being expected to meet at Leasowe Castle Hotel and Hydro in time for dinner.

At the hour appointed, most of the cars had put in an appearance, but two or three members, owing to slight mishaps, were unable to reach their destination until later. Excellent arrangements had been made for the convenience and comfort of the travellers at the hotel, where ample accommodation was offered for storage, and a plentiful supply of petrol was in readiness for those whose stock required replenishing.

A goodly number of the party were provided with quarters for the night at the hotel, and on Sunday morning they began the return journey by way of Chester, stopping for lunch at the Blossoms Hotel, which is the favourite resort of automobilists visiting the city, so much so that it is the intention of the proprietor to cover with a glass roof the yard in which the cars are stored, and to make an inspection pit for their convenience, and, further, to arrange for an engineer to be on the premises or within easy call. The following is a list of those members and friends who attended, together with their respective cars: Mr. and Mrs. C. F. Budenberg and Miss Arnold, 9 h.p. Daimler; Messrs. G. P. Dawson and Lewis, 8 h.p. Panhard; Messrs. C. Frost and Collett Frost, 4½ h.p. De Dion; Messrs. F. Gresham and J. Hoyle Smith (hon. secretary), 4½ h.p. De Dion; Mr. and Mrs. H. E. Gresham, 8 h.p. Heatley; Mr. and Mrs. Hollingdrake, 8 h.p. Progress; Mr. and Mrs. Higginson, 4½ h.p. Empress; Mr. G. Higginbotham, 34 h.p. Motor Mfg. Co.; Mr. and Mrs. A. E. Jones and Mr. W. Kenyon, 6 h.p. Daimler; Mr. V. O'Neill, 10 h.p. Cottereau; Mr. W. E. Rowcliffe and Miss E. McVitie, 5 h.p. Century voiturette; Messrs. E. A. Sherley Price and J. W. Taylor, 6 h.p. New Orleans.

AN EXCELLENT "HUNDRED."

On Friday morning last a trial run of 100 miles was accomplished on the track at Kensal Rise by a Century tandem, driven by Mr. Emerson, of the Century Engineering and Motor Co., Ltd., of Willesden Junction, W. The car was one of the standard pattern, with mudguards removed, and driven in the rough state straight from the shop in the condition in which all these cars are invariably tested before their enamelling and final finish. The company tested the capacity of this type of car by a hundred miles trial in January last at Sheen House, when 4h. 28m. was recorded. On this occasion the fitting of a 6½ h.p. Aster engine in lieu of the 5 h.p. of the earlier pattern resulted in the 100 miles figures being reduced to 3h. 6m. 23 2-5s. In this trip, as in the former one, the times were characterised by most remarkable regularity, and it was remarkable that the slight variations were for the better towards the end of the journey. Had the run been absolutely continuous the 100 miles would have been squeezed into three hours easily; but, unfortunately, the car was too fast for the track, and as the curves were insufficiently banked, the strain upon the outside steering wheel wore the tread of the tyre completely through, in precisely the same way that tricycle tyres suffered in the short era of path tricycle racing when driven round curves that did not exhibit the correct super-elevation. Add to this the fact that the cement at Kensal rise is as gritty and sharp as magnified emery cloth, and the wonder is that the tyre stood twenty, let alone seventy miles. A smart replacement by a remarkably deft mechanic minimised the loss of time, but the elegance of a three hours' hundred was spoiled. The engine—water cooled, with Begbie-Audlin radiators, with the remarkably short length of 20in. per horse-power—gave no trouble whatever, never missing nor giving the least symptom of heating. The regularity of the car's travelling may be gathered from the fact that in the course of the hundred miles the selected fastest five miles took 8m. 46s.; ten miles, 17m. 34 4-5s.; twenty-five miles, 44m. 8s.; and it is interesting that this twenty-five miles followed the momentary halt for the replacement of the worn-out steering wheel. The times were taken by Mr. F. T. Bidlake.

AUTOMOBILE CLUB OF GREAT BRITAIN AND IRELAND.

At a meeting of the Club Committee, which was held on Monday, the 14th July, exactly one hundred extra candidates were elected to membership, the one-hundredth being the Prime Minister, the Right Hon. Arthur Balfour, M.P. The following were also elected on the same occasion: Sir Savile Brinton Crossley, Bart., M.P., Sir George Newnes, Bart., M.P., Mr. Griffith-Boscawen, M.P., Sir Daniel Gooch, Bart., Sir William Tomlinson, M.P., Lord Howard de Walden, Sir Henry Bunbury, Bart., Sir G. R. L. Hare, Bart., Lord J. P. Joicey-Cecil, and Sir Edward Strachey, Bart.

There are now 1,704 members of the club, and it is expected that there will be further additions before the 1st October, when the entrance fee is to be raised from four to ten guineas. The next election of candidates for membership will take place on Monday, the 28th inst., at 5 p.m.

Mr. J. D. Siddeley, the chairman of the Midland Automobile Club, was appointed to the Executive Committee.

Forthcoming Speed Trials at Bexhill.

In connection with the speed trials to be held at Bexhill on 4th August, it was announced that Lord de la Warr had placed a sum of £100 in cash at the disposal of the club to be given as prizes, and it was decided to offer the following.

In the Tourist Section, medals will be given as first and second prizes, unless prizes offered by members are substituted.

In the Speed Section, the following prizes will be given:

SCRATCH RACE FOR MOTOR CYCLES.—First prize, £10 in cash; second prize, silver medal.

SCRATCH RACE FOR RACING VOITURETTES.—First prize, £10 in cash; second prize, silver medal.

SCRATCH RACE FOR LIGHT RACING CARS.—First prize, £20 in cash; second prize, silver medal.

SCRATCH RACE FOR RACING CARS WEIGHING LESS THAN 1,000 KILOGS.—First prize, £40 in cash; second prize, silver medal.

SCRATCH RACE FOR THE FASTEST VEHICLE.—The winner will receive £20 in cash, and will become the holder of *The Autocar* challenge cup.

GENERAL HANDICAP.—The winner to receive a ten guineas cup presented by Mr. Anzi Lorenzo Barber; second prize, silver medal.

It was agreed to add in the Speed Section two new classes, namely, steam cars weighing under 650 kilogs. = 12 cwts. 3 qrs., steam cars weighing 650 kilogs = 12 cwts. 3 qrs. and upward, but not more than 1,000 kilogs. = 19 cwts. 2 qrs. 16 lbs.; no prize to be given unless there are three starters of different types.

It is also proposed to offer a cup in connection with the competition for appearance.

The entrance fee for Class L. scratch race for the fastest vehicle, is £1 1s., and for the general handicap £1 1s.

No entry can be received after July 26th.

Trial of Pneumatic Tyres.

The Dunlop Co., the Martin Co., and the Goodyear Co. have already notified their intention of entering tyres for this trial.

It has been decided to add a second section to this trial, namely, for tyres of not more than 90 mm. section fitted to a car weighing with its passengers not less than one ton.

No entries can be received after twelve midnight on Saturday, the 16th August.

The 650 Miles Reliability Trial.

Over seventy vehicles have already been entered for this trial.

Entry fees now increase by twenty-five per cent. per week.

Answers to Correspondents.

TO CORRESPONDENTS.

This week the following correspondents have been, or will be, replied to by post:

A. C. Tessier.	A. R. L.
W. Murdock.	J. E. Veale.
C. F. Williams.	H. Musker.
D. J. Thomson.	"Solids."
G. Sparks (Feltham).	J. B. Dunlop.
H. W. (Woodcut).	F. H.
John Bishop.	C. J. Watts.
G. Calvert.	Gerald Martin.
John Cunninghame.	J. A. Wyatt.

Our thanks are due to the following for items of news and various topics of interest which have been or will be dealt with: W. F. P., J. Hoyle Smith, Jas. B. Bindlore, jun., E. E. R., W., J. H. Ball (Barcelona), H. Pickles, and J. T. Hereford.

NOTICES.

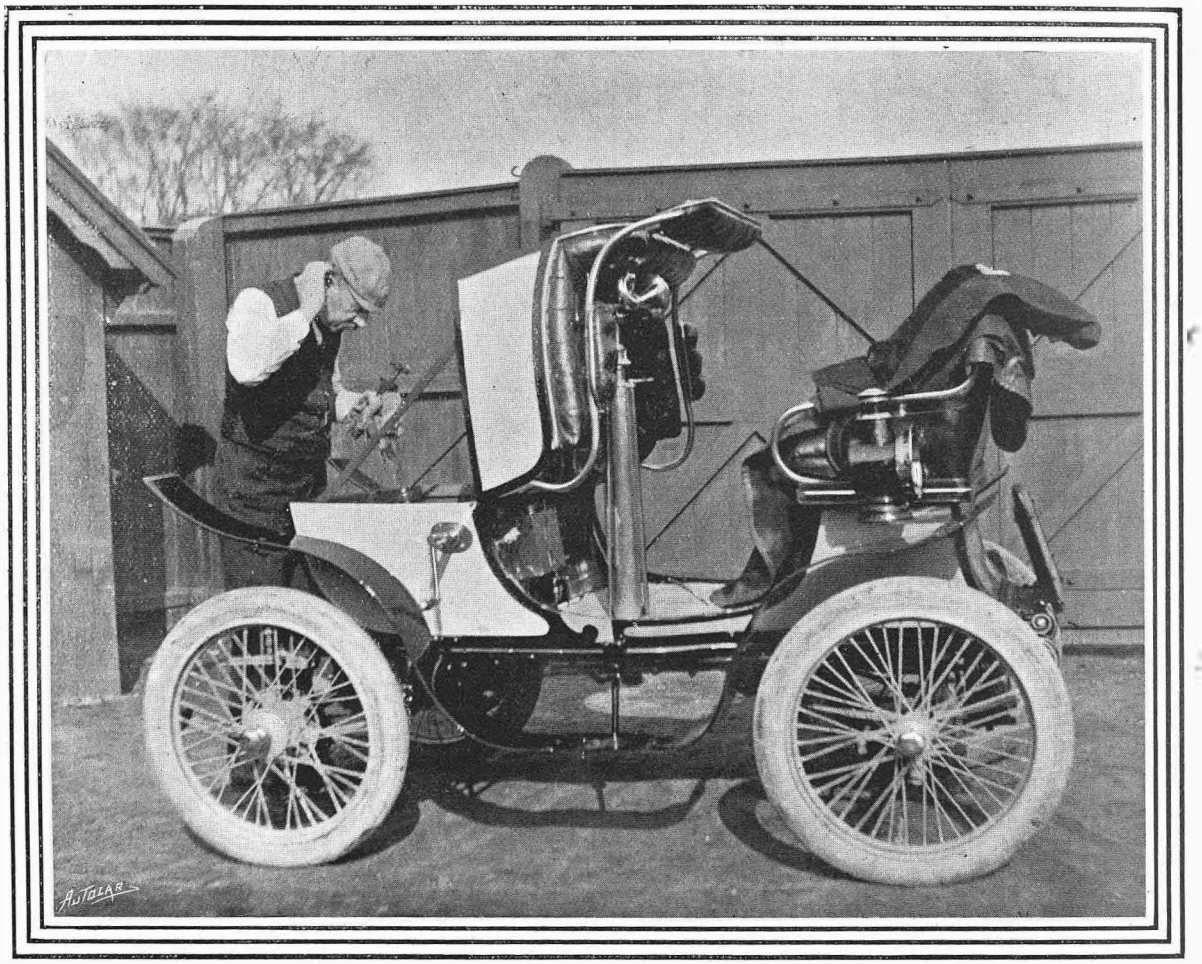
SUBSCRIPTIONS.

"THE AUTOCAR" is published every Friday morning in Town and Country, and may be obtained of all Newsvenders and Bookstalls, or delivered first post on Friday, at the following rates:

GREAT BRITAIN.	s.	d.	ABROAD.	s.	d.
Twelve months	16	0	Twelve months	18	4
Six months	8	0	Six months	9	2
Three months	4	0	Three months	4	4
Single copy	0	3½	Single copy	0	7

These prices include four special double numbers

SELF-EXPLANATORY.



From a photograph kindly placed at our disposal by Mr. W. B. Jevons.