

# THE AUTOCAR

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

EDITED BY H. WALTER STANER.

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## THE AUTOCAR.

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### 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.

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FRANCE: Nice, Levant, and Chevalier, 50, Quai St. Jean Baptiste.

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## Notes.

### The Care of Pneumatic Tyres.

Many car owners evince surprise at the remarkable durability displayed by the pneumatic tyres engaged in the Automobile Club trials, and express incredulity when told that their own tyres are identical with the tyres which pass successfully through such severe tests as the Gordon-Bennett cup race. Some autocarists again boast of their own good fortune with pneumatic tyres of ostensibly identical construction with the tyres which

perhaps a friend uses on a precisely similar car, but which are continually giving him trouble. The explanation of these apparent discrepancies lies not altogether in the manufacture of the tyres, but in the amount of care which is devoted to them. In a large number of cases the tyres on a car would afford their owner infinitely more satisfaction in the hands of a more careful and painstaking mechanic. The average motor car mechanic grudges the elbow grease requisite to keep his employer's tyres thoroughly inflated; he does not attend with sufficient promptitude to such matters as cleaning dirt away from the crevices between the rim and tyre after being out in wet mud, so that the rim gets rusty, and rust eats away the tyre. An official of one of the great tyre companies recently told us that if four well-known gentlemen of our acquaintance were to order identical sets of tyres for exactly similar machines simultaneously, he could foretell exactly the relative durability of all four sets of tyres simply by virtue of his knowledge of the mechanics who look after the respective cars.

### Silent Cars.

Last week we mentioned, and again to-day we refer to, the silent petrol cars which are being produced to meet the requirements of those who want a petrol carriage as quiet in the running as it is possible for it to be made. This, as we have said, is undoubtedly a step in the right direction, and we feel convinced that it might with advantage be carried further. Noise is chiefly objectionable to people who think of becoming motorists and to non-motor users of the road, as with all good cars the sound which is made is scarcely noticeable to the occupants, and when there is a breeze of any strength at all the people in the car are quite unconscious of much more than a slight murmur from the gear. The beat of the engine is inaudible to them, but it is not so to other road users, and when they are considered there is no denying the fact that a large percentage of the cars in use are only half silenced. Further than this, every motorist knows that smoothness of running is too often only attained when the engine can be run at its normal speed or above it, and that, consequently, the idea of buyers who think they will have a powerful engine and then only run the car at low speeds is more or less of a fallacy, as the engine is cutting out all the time, and, as was the case in the reliability trial, a powerful four-cylinder engine is scarcely ever more than partially occupied. This tendency towards power is commendable in many respects, but it is well to bear in mind that there are vast numbers of possible automobilists who do not want to drive fast, but who are extremely anxious that the car which will not exceed, say,

sixteen or eighteen miles an hour shall run with the utmost silence and smoothness at that speed as well as its lower rates, and these are the people whose wants, lately, have not received much consideration. If the desire for high speed is not checked to some extent it is only a question of time before a medical scare will be raised, and we shall be reading of the strain of high-speed automobilism. We do not say high speed in the racing sense, but as compared with horse traffic, and while most people up to middle age want to drive at a good speed, there are numbers of older persons who, we suppose, taken in the average, are better able to afford motors than the younger generation, who do not want to go fast. Not only so, but it is a great question whether the majority of them would be benefited by fast driving. They would unquestionably have the greatest possible enjoyment, and receive immense benefit from regular motoring at moderate speeds, but if the tonic was made too strong the effect on the nerves of the weaker ones would not be beneficial, and as soon as they became numerous there would, as we have said, be a medical scare. Therefore, we welcome these attempts at the production of the silent petrol car most warmly, and at the same time we hope that the quiet, smooth running, slow-speed car which cannot exceed eighteen miles an hour will also be considered, for while it is easy enough to make a fast car a slow one by putting down the gear, neither quietness nor smoothness of running are necessarily ensured thereby.

### Serviceable Sprags.

An item which does not seem to receive a great deal of attention from makers generally, and certainly does not receive the attention its importance demands, is that of the sprag. One cannot fail to notice the utter inadequacy of many of the sprags fitted, especially to large and heavy cars. These are comparatively skewer-like in their proportions, and in many cases are no heavier than one sees hitched up behind such frail matchbox-like constructions as the ordinary London hansom cab. Again, even should a good stout serviceable sprag be fitted, it is often too short, so that it is the easiest matter in the world for a car commencing to run backwards to at once overcome the small resistance offered, and to what is known in motor circles "jump the sprag." The matter is really very important, and one by which the "thinking" maker is marked out from those who consider the item one of minor detail and not worthy of full and careful attention. As a matter of fact, the importance of sprag efficiency is very great—a fact which must appeal to anyone who bears in mind the number of cars which have run away backwards down hills, entirely owing to the sprags having been inefficient in strength, or too short in length.

### Fears for the Future.

The prejudice which exists in certain circles against motor cars is extraordinarily bitter, particularly among the more ignorant of the horse-breeding fraternity, as these people seem to imagine that the aim of the motorist is to exterminate the animal in which they are primarily interested. It is strange that this idea should have entered their heads, as such a very large percentage of motorists are owners

of horses and lovers of the horse. As an instance of the bad feeling which these ill-informed people endeavour to foster we cannot do better than quote a few words from a speech which was made at the Rutland Agricultural Show recently. A speaker who was discussing the future prospects of horse breeders went on to say he was disgusted to see the things (motors) on the road, and he thought it a very great shame that the agriculturists of the country should have them crowded with "nasty, noisy, stinking motors." The speaker evidently knew his audience, as his remarks were received with huge delight. Now the automobilist should always try to discourage the idea of rivalry between the horse and the car, as those whose business is in horse-flesh do not realise that at the present time cars are not replacing horses, but they are doing work which no horses could possibly do. For instance, who would dream of trying to drive his horse a hundred or a hundred and fifty miles in a day; but from the very bitterness of their attack it is evident that the breeders know well that there is a great deal of drudgery done by the horse which will be, and ought to be, performed by the motor. But, for all that, while the movement is young it is just as well that automobilists should not go out of their way to tell them this, as it does no one any good, and may, in some instances, do positive harm.

### The Alarmist Press.

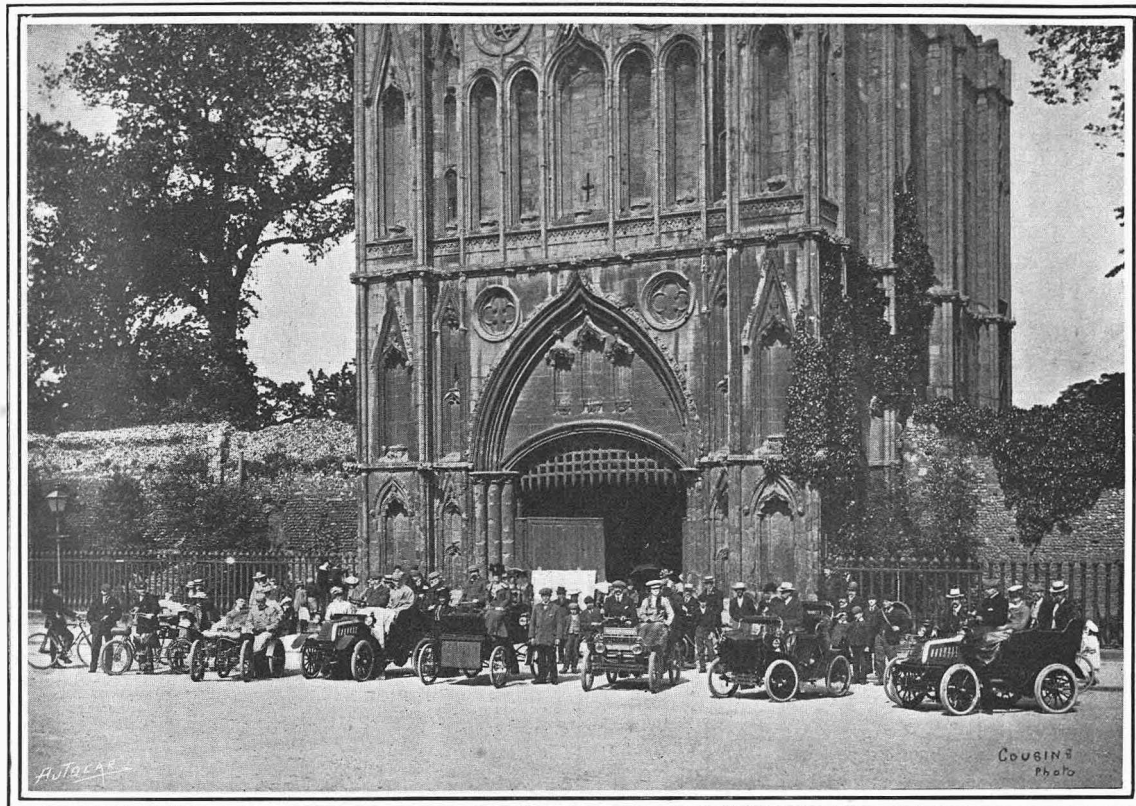
A sensational story has been going the round of the daily papers relative to a collision between a motor car and a motor bicycle near Shrewsbury on Friday last week. It is stated that the machines were going in opposite directions, and that they dashed into each other with alarming result. This is not correct. The car was passing the bicycle, both going in the same direction, when the two slightly grazed each other. The cyclist was thrown off and received severe abrasions on the face, and was, of course, greatly shaken. In a short time he was able to move about with assistance, and was at once taken in the car to the nearest doctor, afterwards returning home by train, and is now progressing favourably. Fortunately, there was no fracture and no limbs were broken. The motor bicycle was but little injured. The owner of the motor car in question, of course, deeply regrets the occurrence, and in the interest of motoring requests us to give the correct details, which we have pleasure in doing.

Mr. Marconi is said to have designed a new electric car, which is now being constructed at Leghorn. It is to have a speed of thirty-eight miles an hour, four batteries weighing 250 lbs., and accumulators sufficient for a run of 560 miles.

\* \* \*

The other day, when looking at Mr. Waterson's latest novelties for the use of automobilists, he showed us a letter which he had just received from the Quadrant Cycle Co., in which they stated that in a 1,000 miles trial run of their new motor bicycle, the "E.H." induction coil, specially made by Mr. Waterson for them, and also the E.I.C. plug, went straight through the test, neither of them being touched during the distance.

## A GATHERING OF BURY AUTOCARISTS.



This photograph of a gathering of Bury St. Edmunds motorists was taken before a run to Mildenhall, where the party were entertained to tea by Mr. Lacy Scott, J.P. Starting from the left the names are as follows: Mr. T. H. Nice, Mr. L. Hunter, Mr. Lacy Scott, J.P., in the tonneau of the 8 h.p. De Dion, with his son driving; Mr. Sparkes and Miss Sparkes in the Locomobile; Mr. and Mrs. Cousins, 5 h.p. Decauville; Mr. Williams, 4½ h.p. De Dion; and Mr. and Mrs. Collins 8 h.p. De Dion.

## THE 5,000 MILES BENZ.

As we announced last week, the little 4½ h.p. Benz which Mr. H. Hewetson drove 5,000 miles in fifty consecutive days, Sundays omitted, will be sold at the City Garage, Queen Street, Cheapside, E.C., on Tuesday next, October 14th, at three o'clock, for the benefit of the King Edward VII. Hospital Fund. The car is an ordinary standard pattern Benz, with single-cylinder horizontal engine, 115 mm. bore by 115 mm. stroke. The transmission is by belt on engine crankshaft to fast and loose pulleys on intermediate shaft, and thence through steel spur wheel gear to differential-shaft, with the usual chains connecting the differential-shaft with the driving wheels. Three speeds forward and reverse are provided by the change gear, and the normal speed of the engine is 750 revs. per minute. It will be noticed that the front wheels (26in.) are fitted with pneumatic tyres (Michelins), and the driving wheels (34½in.) with



solid tyres—a very practical combination. The wheelbase is 5ft. 2in. Some particulars of Mr. Hewetson's long drive were given in *The Autocar* of August 9th and 23rd.

## USEFUL HINTS AND TIPS.

We can particularly recommend the application of Collan oil for the purpose of keeping the clutch leather in good condition. It can be liberally applied, for it does not cause the clutch to slip even when used too plentifully. It is much superior to castor oil for this purpose.

x x x x

Car owners who make a practice of carrying a spare set of fully-charged accumulators should give these an occasional turn and turn about with those in regular use. Such a practice improves the accumulators, prevents them from sulphating up, and renders them easier and more economical to re-charge.

x x x x

After returning from a run and putting up car, a little paraffin should be injected into each cylinder of the engine, and the crankshaft revolved half-a-dozen times or so. This frees the piston rings from any oil which might glue them up when left for a day or two, and greatly facilitates the starting of the engine when the car is next taken out.

x x x x

It is very bad practice to drive on the brake, though some people who know no better think it showy. By driving on the brake we mean driving jerkily. For instance, we will assume that the driver is coming to a turn or overtaking a block in the traffic. Instead of reducing his speed gradually as soon as he sees the necessity for a slack or perhaps a stop, he rushes up to the point and then jams on all his brakes and pulls his car up dead. The next moment, as the necessity for the slack has passed, he crowds on all available power without allowing his engine a moment to recover and introduce itself gradually to its car. This sort of thing ruins any engine and car, as it subjects them to extremely severe shocks and strains. In fact, there is no doubt whatever that more than one mysterious failure has been caused by the parts being overstrained through this reprehensible manner of driving.

One of the new De Dion patterns for next year is a 6 h.p. voiturette. The engine is placed in front under a bonnet, and, broadly speaking, the machine may be described as a reduction of the well-known 8-9 h.p. De Dion. It provides comfortable seating for two, and no provision is made for the attachment of a dickey or a stumpy tonneau, as is sometimes the case with these small cars, the idea seeming to be to produce a thoroughly comfortable, speedy, and handy sociable. Two positive speeds are given, the lower being nine and a half miles per hour, and the second much above ordinary requirements. The total weight is just under seven hundredweights. The springing is exceptionally easy, the rear axle being carried further back than usual, and it has half elliptical springs connected to the tubular frame by means of inverted C springs. The front axle is also thrown well forward, and altogether the little vehicle looks as though it would meet the requirements of a large number of people.

If the valve cap of a tyre is lost at any time a piece of rubber, leather, or rag should be put over the orifice and secured with an elastic band or piece of string round the stem, as if any dust gets into the valve it is almost certain to leak. It is always a good plan to make one or two strokes of the pump before screwing it to the valve, so that any dirt or dust which has lodged in the tube or nozzle is blown out and not forced into the valve.

x x x x

A very good guide to tyre inflation when there is reason to doubt the accuracy of the pressure gauge on the pump or when the driver does not know what pressure is suitable for a particular car, is to take two of the spokes, one in each hand, and stoutly shake the car, noticing whether the wheel moves to and from the operator while the part of the tyre on the ground remains stationary. If any of this side roll is apparent the tyre is not sufficiently inflated.

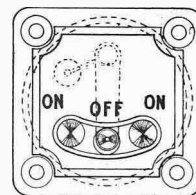
x x x x

When tightening nuts on to bolts which hold any cast portion of the motor in position great care should be taken, if there are more than one bolt holding the cast portions together, that the nuts are screwed equally. Each nut should be screwed down a little in turn, and not one tightened and then the other. It is also well to remember that most parts of the engine expand as soon as it heats, and that it is quite unnecessary to screw down every nut with a two-foot spanner.

x x x x

Sometimes when a gear change from a lower to a higher speed has been made it will be found that the engine commences to thump heavily. This is due to the fact that the change has been made a little too soon and before the speed of the car or the resistance warranted it. The thumping can be instantly stopped by lightly touching the clutch pedal, so that a little slip takes place. The engine then quickly picks up, and the thumping ceases.

Among the G.O.M. electrical specialities which Messrs. J. C. Meredith are marketing is an accumulator switch for duplicate sets of accumulators. On the back of the switch are three terminals, one of which is connected to the switch lever. To this terminal one of the wires from each accumulator is connected, the opposite ends being connected one to each of the other terminals. With the switch handle in the central position, the circuit of both accumulators is broken, but by pushing the lever to one side or the other one or the other of the accumulators is connected up. The switch is English-made, and lettered as in the illustration. We would suggest to the makers that a cap be fitted to the back of the switch, in order to prevent short circuits by any conducting material resting across the terminals.



## THE LONDON COUNTY COUNCIL MOTOR FIRE ENGINE.



Side view of the engine complete.

From outward signs the uninitiated would pronounce the motor fire engine lately completed in the workshops of the London Fire Brigade to be naught but a horseless steam-pumping fire engine with sundry tank additions. By a closer examination, which was courteously permitted us by Commander Wells, it soon became apparent that beneath the driver's box, and slung to the I iron frame carried upon front and rear axles by stiff semi-elliptical springs, is a high pressure two-cylinder horizontal engine, with cylinders  $5\frac{1}{2}$  in. in internal diameter and 6 in. stroke. The cylinders are nearest the front of the vehicle, the crankshaft being set nearly transversely across the car. It runs in four bearings, one between the cranks, and one close up to the chain sprocket, from which the drive passes by a short Brampton chain to the countershaft, which runs in a similar number of bearings, one being interposed between the differential gear and the chain sprocket. From the chain sprockets on the countershaft the drive passes to the chain wheels bolted to the spokes of the 4ft. iron-tired driving wheels through two large-pitched Brampton chains, as shown.

The boiler is the usual type of water-tube crinoline boiler fitted to the well-known horse-drawn steam-pumping fire engines. This is a type of boiler somewhat like a milk churn in form, which is specially made for steam-pumping fire engines. The illustration shows the internal fire box, which is traversed by horizontal water tubes, round and about which the fire plays, and which connect the vertical annular water space formed between the fire box and the outer shell. The tubes are inserted in the fire box in parallel series, each series crossing that above and below it at right angles. One of Clarkson's patent heavy-oil burners is used for firing, and for construction and description of this burner we refer our readers to *The Autocar* of June 22nd, 1901, page 613.

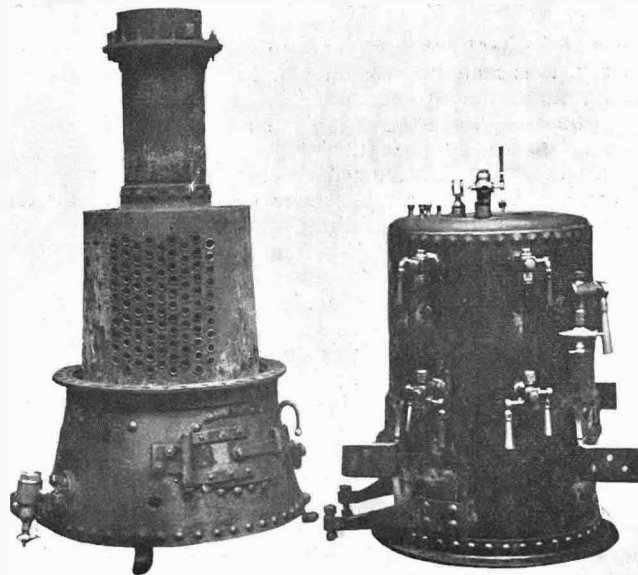
The working pressure of the boiler is 110 lbs. per square inch.

The Clarkson burner will raise steam in this boiler from cold to working pressure in eight minutes, but when the engines are standing ready for duty a gas flame within the boiler will be employed to keep a head of steam and the vaporising parts of the Clarkson burner hot at the same time.

The water supply to the boiler when the horizontal engine is driving the vehicle is maintained by an ordinary force pump driven by an eccentric off the engine-shaft, the feed of this pump being controlled by the engineer on the footplate in rear.

Water sufficient for a twenty miles run is carried in three tanks—one beneath the driver's

footboard, one slung by straps from the frame in the centre of vehicle, and another between these two not seen in our illustration. The water on its way from the large tank passes through a coil in the exhaust muffler, and is thereby heated. The suction pipe of the feed pump runs to the lowest of the three tanks. The oil tank for the supply of oil to the Clarkson burner fire is situated under the driver's seat, and contains forty gallons. The running consumption, running or pumping at full speed, is, roughly, about seven gallons per hour, so that a six hours' supply may be said to be carried. The oil passes to the burner at a pressure of 40 lbs. to the square inch from an oil air vessel, into which the oil is pumped from the tank by a small independent Blake pump set on the rear near side



The boiler and fire box with outer shell of boiler removed.

of the frame. An escape valve is fitted on the delivery pipe, which allows the excess of oil to return to the supply tank. The Clarkson burner is fitted with a steam intensifier. With regard to the conduct of the vehicle, it should be said that the speed control of the motor steam engine is entirely in the driver's hands. That is to say, on his left hand are found the throttle lever and linking up and reversing lever. A pedal conveniently placed enables him first to apply a powerful drum brake on the countershaft, continued pressure applying in addition, the band brakes acting upon the drums forming part of the chain wheels bolted to the spokes of the road driving wheels. Four block slipper brakes, acting on the top of all four wheels, can also be applied independently by the actuation of two long levers by the firemen standing on the side platforms by the driver. Upon enquiring why means were afforded of upsetting the driver's judgment, and thus tending to bring about a catastrophe, we were informed that the men would have no confidence in riding upon the engine if they had not independent control with these brakes. All we can say is that were we concerned they would have to acquire that confidence, for by virtue of our driving experience we regard such divided brake control as fraught with a considerable amount of peril.

Wheel steering is fitted, but we fancy this is geared too low. The hubs of the steering wheels are provided with Mackenzie's patent central steering, in which the steering centres are set in the vertical plane of the wheels. The engine can be turned in a 28ft. circle.

It must be understood that the London County Council does not contemplate the construction of the steam-propelled fire engines they are likely to require, but have built the engine under review for the purposes of experiment, and with a view of causing it to serve as a pattern engine when it is resolved to order any number of these machines. To use a War Office term, it will be the sealed pattern.

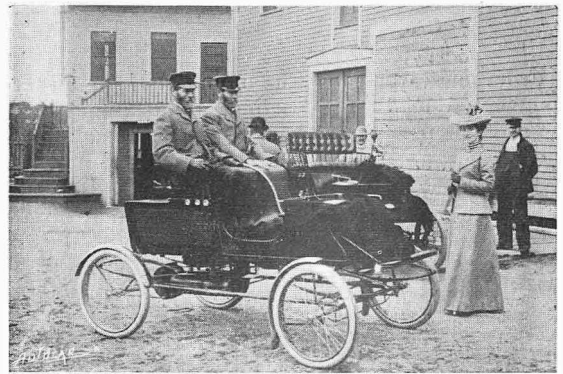
It will, of course, be understood that this motor fire engine is literally a horseless fire engine. That is to say, it is merely a Shand and Mason engine built for horse haulage converted to be propelled by its own power, the idea being to convert existing engines. We presume that when new engines are built they will be designed as complete motor vehicles, and very different in many respects—particularly in length of wheelbase, distribution of weight, and system of control—from the converted horse vehicles.

The similarity between the London County Council's fire engine and that of the Norwich Union Fire Office at Worcester, which was converted by Mr. C. T. Crowden, of Leamington, is obvious to those who know both, notwithstanding that the one is a Shand and Mason type and the other a Merryweather. Mr. Crowden informs us that he was consulted in regard to the conversion of the existing fire engines of the London County Council into motor-drawn engines. The council referred the matter to Commander Wells, with the result that several interviews and voluminous correspondence followed between Commander Wells and Mr. Crowden. The designs and details of the Worcester engine were submitted for the information of Com-

mander Wells and the council's engineer, and matters proceeded so far, Mr. Crowden informs us, that it was practically settled that he should convert one of the fire engines experimentally, but shortly afterwards Mr. Crowden was informed that the county council were going to do the work themselves. As the matter will probably be the subject of legal proceedings, we refrain from further comment.

### STANLEY BROTHERS ON THEIR LATEST CAR.

We recently received from Mr. J. J. Acworth, Ph.D., F.I.C., F.C.S., a most interesting letter and a photo of the brothers Stanley, the builders of the Stanley steam car. The brothers are twins, and, as can be seen from the photograph, their appearance is almost identical—in fact, our correspondent tells us that when he endeavoured to distinguish one from the other he was hopelessly deceived.

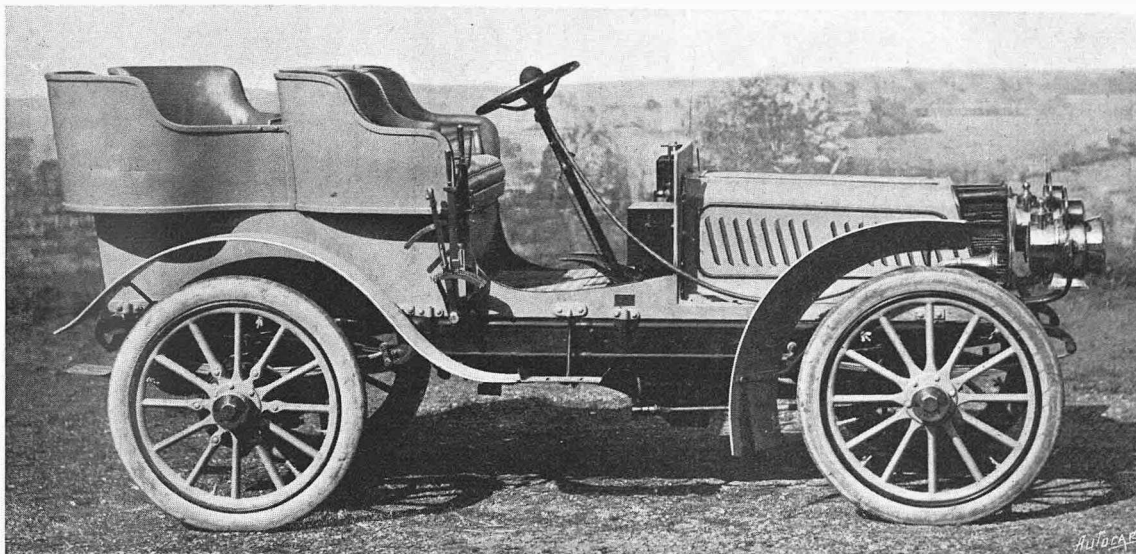


The Messrs. Stanley are seen seated in one of their latest types of steamers, which at the time of Mr. Acworth's visit had just been fitted with a new feed water regulator in place of the usual water gauge.

Mr. and Mrs. Acworth returned from the works to Boston, a distance of about ten miles, in the car. The regulator worked perfectly, and the drive, especially the rapid hill-climbing, proved a delightful experience.

Mr. W. A. Slade, of Luton, whose recent meritorious performance on a Quadrant motor bicycle we commented upon in these columns, states that he had other slight troubles than that occasioned by a puncture. His cam broke, which mishap, he said, had not occurred when he left the machine to be cleaned. Messrs. Rennie and Prosser, Glasgow, remedied this in one and a half hours. Mr. Slade also had a spill near Carlisle, which was caused by a chicken flying into his front wheel. Luckily, Mr. Slade escaped unhurt, but his handlebar and crank were badly damaged. These, however, were repaired by the Citadel Cycle Co. It will be apparent that neither of these misfortunes arose through any fault of the motor. Mr. Slade adds that in wiring particulars of his ride to the Quadrant Cycle Co. he did not mention the mishaps we have related, and his object in asking us to give these corrections is that he does not wish to take any more credit than is due to him.

## THE NEW 20 H.P. DECAUVILLE.



In response to the demand for a still faster and more powerful car than the 10 h.p., the Société DecaUVille have just brought out a new type of 20 h.p. The engine has four cylinders, each of 110 mm. bore and 110 mm. stroke, it being a pair of 10 h.p. two-cylinder engines with a common crank chamber. Three speeds are provided, as they are considered all that are necessary owing to the high power available, and the top drive is direct, the only reduction between the engine and the live axle being provided by the difference in diameters of the bevel gears. The other main features of the car are the same as those of the 10 h.p., but certain detail improvements have been

introduced, such as automatic lubrication throughout. The wheels are of equal sizes, and the back are built specially strong to stand the strain of the higher power and extra weight. At the back, in addition to the two semi-elliptical springs, there is a transverse spring, so that the car is very comfortably suspended. The body is extremely commodious, the front seats being of the scolloped pattern, while the back are high and well rounded. Absence of vibration and noiselessness of running are two of the main claims made for the new car, and we hope to put them to the test shortly. The British agents for the Société DecaUVille are the Motor Car Co., Ltd., of Shaftesbury Avenue.

At Dorking recently an excessive speed charge against a motorist was dismissed, the prosecution failing to put in the statute showing the legal speed.

\* \* \*

Mr. Ewart West speaks very highly of Mr. Hyde as a good practical motor engineer at Stow-on-the-Wold, Glos. Mr. West has found him very obliging and capable. As there is no one within some twenty miles, this is worth knowing.

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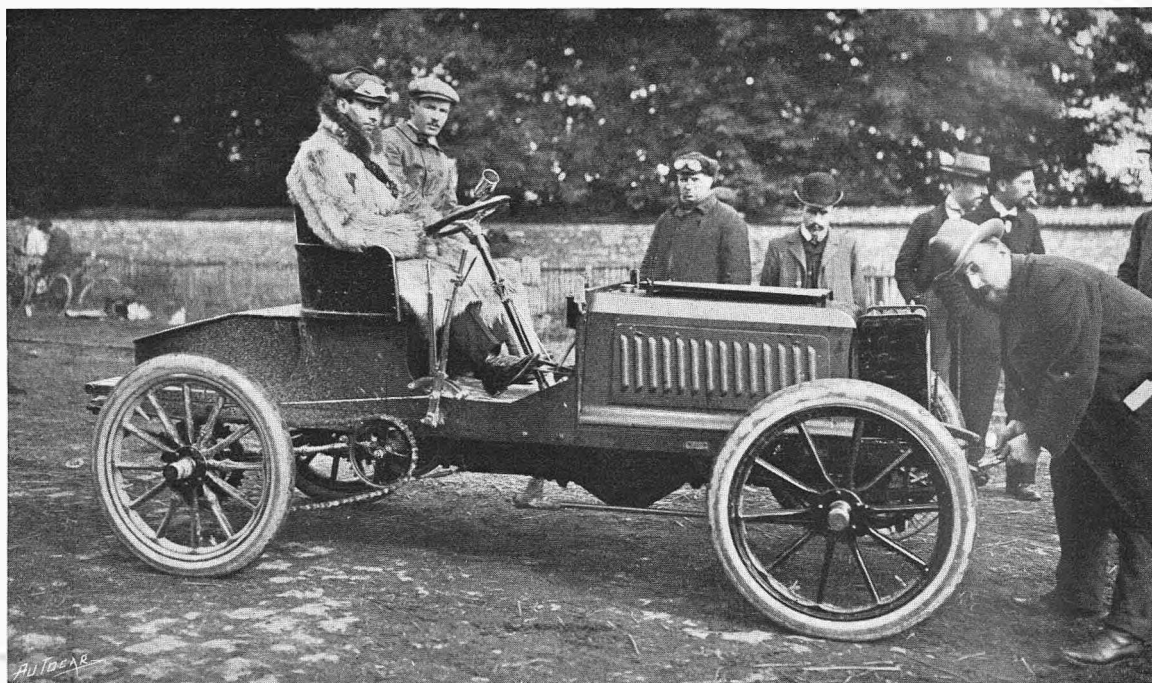
Among the most amusing comments which we have seen on the question of oiling the roads is one which has been sent us by Mr. T. Bernard Percy from a North Welsh paper. In discussing the matter, it gravely says: "As if motor cars do not travel fast enough already without having the roads greased for them, we are threatened with this additional horror. County councils may now look forward to having the honour thrust on them of oiling the roads for the benefit of the automobile fiend. Greased lightning we have heard of before, but greased roads is the very latest. What next!" We feel that the thanks of automobilists at large are due to our correspondent for having unearthed this gem.

The school of motoring opened at Liverpool by Mr. William Lea has proved most successful—in fact, pupils have to be booked some time in advance. Two of them, we are told, have come all the way from London for tuition. Of course, the majority are amateur owners or intending owners, but one was a returned reservist, who, directly he saw how matters stood on his arrival from the front, decided to invest his savings in learning to become a proficient motor driver.

\* \* \*

"Plaxine" has cured a slipping clutch on our car. The clutch had become so saturated with oil through leakage that cleaning with petrol and the application of fuller's earth had comparatively little effect on it, and we had to put so much pressure on the spring that it was quite difficult to get the clutch out. After we had dosed it with the Plaxine preparation we were able to slack the spring off, and that without any tendency for the clutch to slip. It is also recommended for application to brakes on which oil may have run, and for driving belts on cars and bicycles, but we have not tried it in these ways at present, though we have no doubt, bearing in mind its effect on the clutch, that it would be equally satisfactory.

## PROHIBITION OF THE GAILLON HILL CLIMB.



The new 24 h.p. De Dietrich.

The history of automobilism has been marked with several unexpected and disagreeable incidents since the new laws regulating the speed of autocars necessitated the carrying out of all sorts of formalities before permission can be obtained for organising trials and races, but probably at no time has feeling run so high as it did on Sunday at Gaillon, when the Prefect of the Department sent a force of gendarmes and soldiers at the last moment with instructions to prevent the trials from being held. At Nice it was bad enough when some scores of makers were put to useless expense in sending down vehicles to compete in the Abbazia race, but on that occasion feeling was tempered in some measure by the conviction that a serious blunder had been made for which the authorities were not wholly responsible. At Gaillon it was openly stated that the prohibition was due to personal spite on the part of the original promoter of the Gaillon trials, who had induced the Prefect to put his veto upon the rival meeting. The disappointment was therefore aggravated by a keen resentment among the eighty automobile manufacturers who had sent vehicles to Gaillon and the hundreds of visitors who had undertaken the journey to witness the trials. The fixing of the responsibility for the interdiction of the meeting can be left to those most closely interested, but it may be mentioned, as a very curious incident, that the order to stop the meeting was only given about an hour before the time fixed for the trials, so that it was utterly impossible for the promoters to make fresh arrangements.

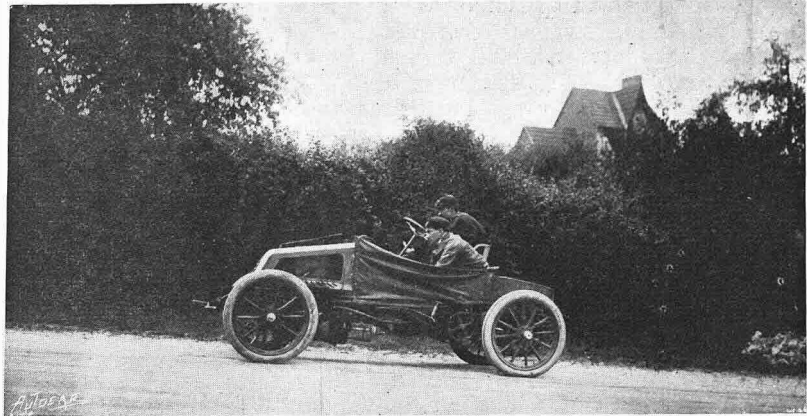
We have already given some idea of the conflict which has arisen between the two automobile papers in Paris over the organising of the Gaillon trials. Originated by *Le Vélo*, they have been carried out by that journal on four occasions, and when the

date was fixed this year for October *L'Auto Vélo*, which had declared its intention of spoiling everything taken in hand by the rival organ, stated that it would promote a meeting at Château-Thierry on the same day in the hope of drawing away all the custom from Gaillon, and then, to further demonstrate its influence, *L'Auto Vélo* announced another meeting on the famous Sainte-Barbe gradient the following week. In order to avoid this competition there was a shifting and changing of dates, until finally the *Vélo* fixture was to take place on September 21st, while the opposition contented itself with the two following Sundays. The Gaillon meeting, as we showed, was very poorly supported, and, in fact, narrowly missed being a failure, while the Château-Thierry trials on the following Sunday were an unqualified success. All the vehicles taking part in this latter meeting were to compete at Gaillon on Sunday last, with the addition of a few others, so that close upon eighty vehicles and motor cycles passed over the weighbridge. Owing to the large number of competitors, it was decided to run the motor cycles and voiturettes in the morning and the light carriages and big cars in the afternoon. Consequently, the weighing had to take place on Saturday at Vernon. The vehicles made a very interesting show, several of them being of entirely new types prepared for the forthcoming Salon, and the makers were, naturally, anxious, before putting them on exhibition, to prove their capabilities in an official test. A very large number of motor cycles were present, showing quite a remarkable variety in design, and ranging from motors of 16 h.p. down to little engines of  $\frac{3}{4}$  h.p., and it was curious to notice that while the former were all air cooled, some of the little motors were cast with water jackets. In fact, manufacturers do



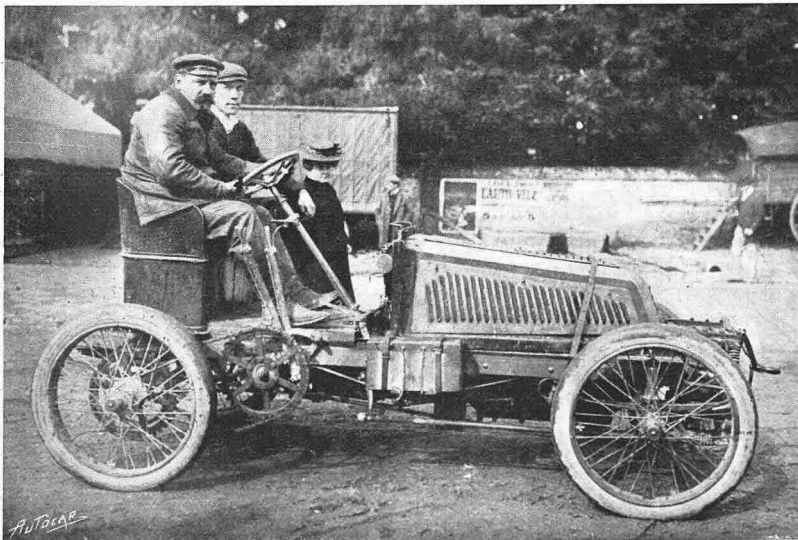
not seem to have made up their minds as to which system of cooling is preferable for bicycle motors. On the Gamet bicycle the huge single-cylinder motor, said by the maker to develop 16 h.p., is fitted with square aluminium cooling ribs at least a foot square. They are, of course, adopted with a view of reducing weight, and if efficient there is no reason why these cumbersome ribs should not be used on purely racing machines; but, on the other hand, it is difficult to understand why makers should strive after weight reduction, since the machines already come into the third category of motor cycles weighing 50 to 250 kilogs., and there would be plenty of margin for ample water circulation. It is, in fact, the latitude allowed by the weight limit which has been taken advantage of by some makers of light motor bicycles to cast their engines with water jackets, as this adds very little to the weight of the machine, and a pint of water will go a very long way. Whether, however, there is any advantage in water cooling on these little motors may be open to question, and it is probable that the new firms who have introduced it will eventually follow the lead of the big makers, such as De Dion-Bouton and Soncin, who have suppressed water jackets on their racing machines of 8 h.p. and more. It is obvious that water cooling adds slightly to the efficiency of the small engine, but experience has shown that this advantage does not compensate for the increased weight and possible source of trouble through leakage and other causes. The water jacket also seems to be doomed on cycle motors by the growing practice of boring the cylinders out of steel. Bruneau seems to have led the way with steel cylinders for bicycle motors, and Clément is also employing them on some of his machines, and now the practice is

being followed by Lamaudière, who turns his cylinders with double ribs, a broad rib alternating with a narrow one, though what is the precise advantage



Rigolly driving the Gobion-Brillie up Gaillon. The camera was carefully levelled to show actual gradient.

of this arrangement it is difficult to say. The turning of cylinders with ribs would seem to add largely to the cost of manufacturing motors, and if the small smooth-cylinder engine should prove efficient it is probable that makers will be giving attention to this more economical process. As regards transmissions, the belt is, of course, still used on the big motor bicycles, as the employment of a chain with such powerful engines would no doubt be a source of danger, and would, at all events, result in the rapid destruction of the tyre. The belts are broad, and sometimes run on flanged pulleys covered with rough leather to give the necessary grip. On the Griffon bicycles with Soncin motors the belt is of a pattern which is largely employed in this country for transmission in power stations. It consists of two narrow belts made up of three or four thicknesses of green leather, and separated by from half an inch up to two or three inches, according to the size of the belt. Steel rivets pass through the entire width of these two narrow belts, which thus practically form the sides of a chain, while the steel fastenings are the rivets. Tests have shown this type of chain belt to be remarkably strong and absolutely devoid of stretching, while the fact of the ends of the several thicknesses being in contact with the pulleys offers a much greater holding surface than is possible in the case of flat belts. The system, however, is only suitable for large belts, and cannot be employed on small motor bicycles, though it seems to be very efficient on the bigger machines. In one of the small motor bicycles built by M. Georgia Knapp the transmission is dispensed with altogether. The small motor is simply clipped to the back stays by the side of the rear wheel, and gears



The new four-cylinder Boyer.

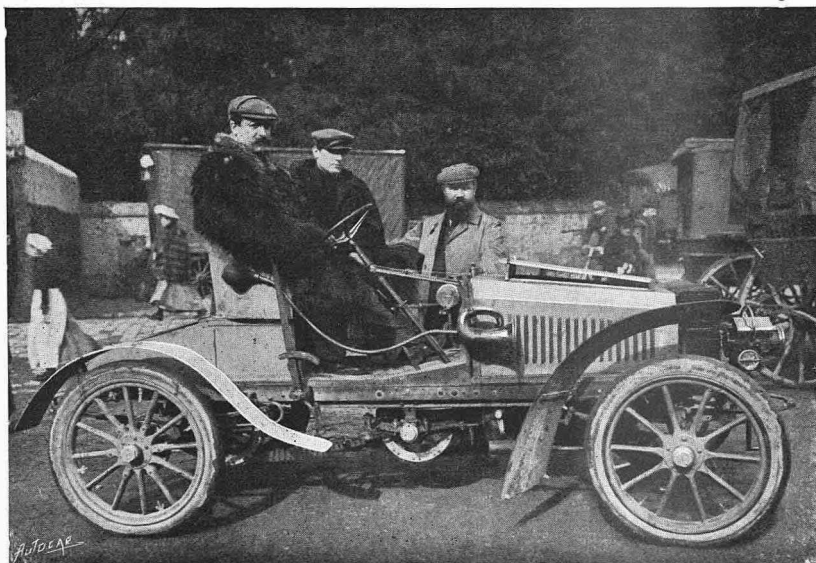
direct on a pinion on the rear wheel. M. Knapp, who is an authority on these matters, claims that ninety per cent. of the power of his motor is utilised at the rim. It is a pity that no opportunity was given of putting the machine to the test at Gaillon.

Among the new cars was the 20 h.p. Georges Richard, designed by M. Brasier, the late engineer of the Société Mors. The car is a very fine-looking vehicle, possessing many of the features adapted by M. Brasier to the Mors automobiles, notably the direct drive on the top speed, but he has at the same time greatly simplified the mechanism, and instead of having two bevelled pinions on the countershaft, as is the case with the Mors, he has only one which is keyed for the fourth speed. Since M. Brasier became associated with the progressive firm of Georges Richard the cars have been entirely remodelled, and with the improvements he has carried out in the system with which he has been so closely identified in the past, M. Brasier has produced a vehicle which is in every

respect up to date, and will no doubt hold its own in the direction of simplicity, reliability, and speed. The first of the new series of 24 h.p. De Dietrich vehicles was also present at Gaillon, the mechanism being, of course, exactly the same as that described in our account of this vehicle last week. The Boyer car is another vehicle which is keeping pace with modern progress in autocar construction, and fitted with the classic four-cylinder motor, it has many interesting features, which we hope to deal with before long. At the time of the Deauville meeting we alluded to the Fouillaron car, with 30 h.p. Buchet motor and expanding pulley transmission, and since this system was shown for the first time at the last Paris Salon, it has been going ahead in a way which shows that there must be a good deal of merit in the invention. At Gaillon there were two big cars of this type, the newest being the one illustrated, and though it was not put to the test on the hill, what we saw of it conveyed a very good impression of the elasticity and efficiency of this system. The cars were weighed at the Vernon station, and for this purpose had to be driven between the rails on to the weighing machine, and when the operation was terminated had to get out again in the best way they could. The driver of the Fouillaron disdained to reverse to the point where the rails were flush with the road, but fairly attacked them sideways, a matter of no small difficulty on the sleepers when the rails had to be taken at a very acute angle. The triangular belt behaved admirably under this enormous strain, and there was not the slightest appearance of slipping. Fournier was present at a meeting for the first time since the Gordon-Bennett cup race with the same Mors car which he drove on that occasion, but as

the motor is a very big one, far in excess of the powers of the engines on the other Mors cars, the vehicle had to be stripped of everything to bring it within the weight limit, and the back of the frame was simply boarded over.

The weighing, which had begun in fine weather, finished in a steady dispiriting downpour, and the competitors and visitors went on to Gaillon with a good deal of foreboding as to the condition of things on the morrow. Fortunately, this unfavourable forecast was not borne out, and the fine weather on Sunday morning left everyone in the best of spirits. At daybreak the town was already alive with the sound of motors as the cycles were put through preliminary tests on the magnificent stretch of road in the direction of Vernon. The Griffon bicycles and the De Dion tricycles travelled at terrific speeds, but most of the bicycles with big motors could not be got to start at all. For a couple of hours desperate efforts were made to start the 16 h.p. bicycle, and the unfortunate rider covered many a mile propelling it like an old-fashioned hobby-horse.



The Fouillaron car.

When at last it did start a horse in a trap took fright and bolted on to the pavement, when it overturned, and the bicycle and rider only escaped collision by performing the same acrobatic feat. No one was hurt, and not the slightest damage was done. The streets of Gaillon had now become extremely animated, and everyone was preparing to go to the hill a mile and a half away, when a captain of the gendarmerie sought out the organiser, M. Prade, and told him that the meeting was prohibited. An order had come from the Prefect to stop the trials, even if it were found necessary to fell trees across the road. The captain was very polite, but he would listen to no argument, and said that he had authority to call on the military forces if any resistance were offered to him. As the trials had been sanctioned by the Minister of the Interior, the telegraph was set at work in the hope of getting him to interfere, but as the hours passed and no news came the meeting had to be postponed, much to the indignation of the crowd in the street, who believed

that they were victims of an underhanded manœuvre. The trials have been merely postponed, and will probably be held on Sunday, though whether at

Gaillon or on some other gradient depends upon future events.



Fournier on the big Mors stripped for speed.

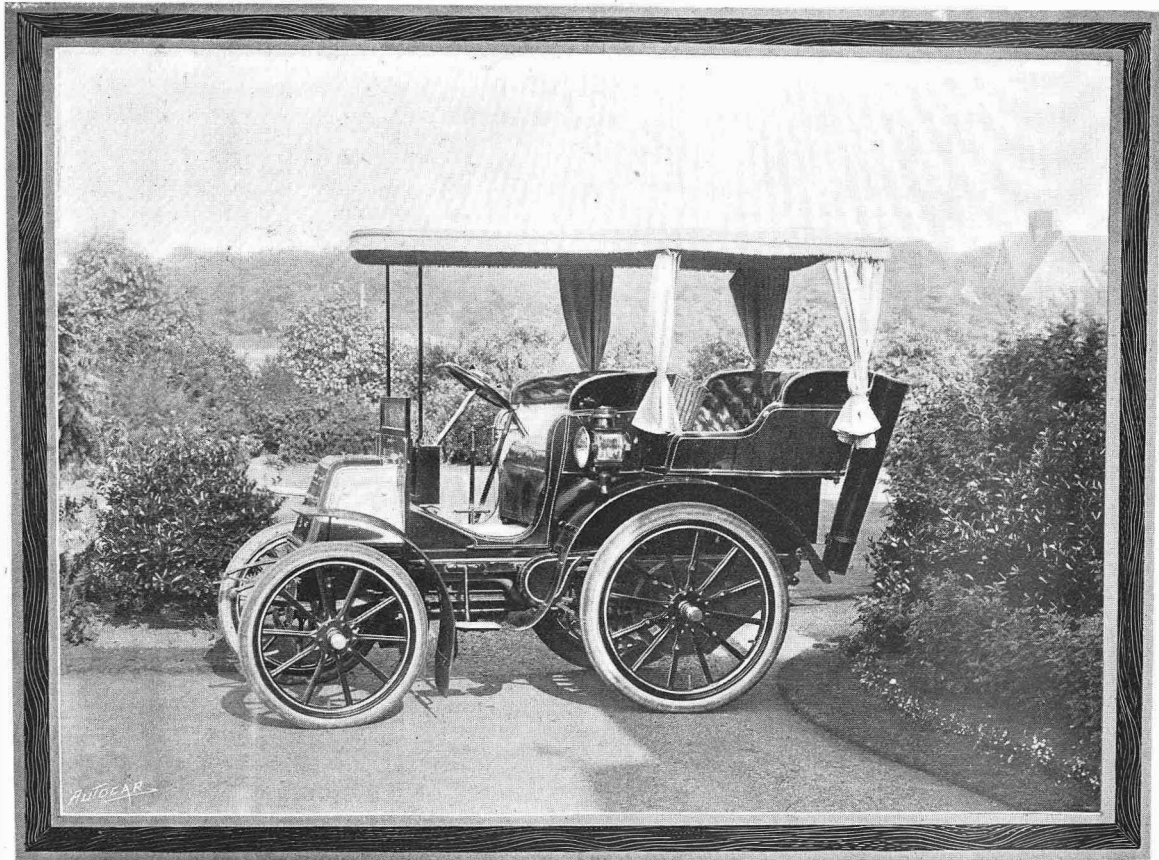
### THE OILED ROAD AT FARNBOROUGH.

From what we saw on Saturday afternoon last on threequarters of a mile or so of the Farnborough Aldershot Road, the time is not far distant when all road users from automobilists downwards will gratefully remember the names of *The County Gentleman* and Mr. W. J. Taylor, the county surveyor of Hampshire. Very well satisfied with the result of their experiment, *The County Gentleman*, through Mr. Rees Jeffreys, the honorary secretary of the Roads Improvement Association, invited a party of press representatives and experts down to Farnborough last week-end to view the oiled stretch of road. Most of the party travelled by train from town, and were met by Mr. Alf. Chas. Harmsworth, who transported as many at a time as his 40 h.p. Mercedes would hold to the "browned" stretch of roadway. Upon arriving thereat it was generally agreed that a better road surface than the liberal application of the "Texas" oil has rendered this section could not be wished for. Mr. Harmsworth made some particularly swift passages from the untreated on to the treated surface of the road, with the result that the dust annihilating properties of the oil treatment were emphatically demonstrated. As the big 40 h.p. Mercedes sped over the normal road surface she piled the dust cloud behind her fifteen feet high or more, blotting out from view everything she passed until she struck the oiled section, when the dust cloud fell from her as a mantle, and she sped on without a suspicion of the pall that she had previously raised. So far as the dust problem goes, the oil has settled it, and in relation to the improvement of the road surface but little doubt remains. Certainly the portion under experiment is particularly suited to the oil treatment, and as yet no stress of weather has put it to the proof, but so far as the improvement of the wearing quality of the oiled surface is concerned, this would seem

also to be verified. The effect of the 3,200 iron horseshoes which have passed over the road twice every day since the oiling was completed is non-observable. Indeed, from what was noticed on Saturday afternoon, the very little that the road cuts up from the scraping of the horses' shoes is quickly smoothed down again by the rolling pressure of the iron vehicle tyres. The oil, while blending with the road metal and making a fine solid stratum, appears to render the surface skin quite plastic, and causes it to pack flat and smooth under the rolling wheels. It is difficult to say without experiment, but from appearances it would not surprise us to find that the power necessary to propel or haul a vehicle over the oiled surface is considerably less than that necessary to perform the same work under the best conditions over the ordinary road surface. What little odour there is is not worth speaking of, and certainly is not in the least degree offensive. To our mind, the surface of the road gains in appearance by the treatment. It gives a nice warm tone of honey brown, which is particularly pleasing to the eye, and blends pleasantly with surrounding objects.

The effect of the dressing upon rubber tyres cannot as yet be determined, but after a careful inspection of the surface, such well-known experts as Professor C. V. Boys, Mr. C. Worby Beaumont, and Mr. Vane (of the Dunlop Pneumatic Tyre Co.), were of the opinion that the hydrocarbon had been so completely absorbed by the road metalling that no harm whatsoever to rubber was to be feared. The results of hot sun, frost, and heavy rain upon the oiled road have yet to be determined, but we understand that, so far as he has been able to form an opinion, Mr. Taylor believes that the proper application of "Texas" oil will result in a very considerable saving in the cost of road maintenance.

## LORD HASTINGS' CAR.



We are able, thanks to the courtesy of Lord Hastings, to reproduce a photograph of his 6 h.p. Daimler. This car, by the way, was the first built for the King. The style was originally a mail phaeton, but Lord Hastings had the hood and back seat removed and a tonneau back with canopy of thin ash and curtains and removable glass screen fitted. The work was done by Mr. Prentice, of the

Eagle Carriage Works, Lambeth, and the car makes an exceedingly smart and comfortable vehicle. Michelin tyres are used with Kopaline raw hide bands to prevent puncture, and so effectual have they been that since they were fitted some six months ago not a single puncture has been experienced during the entire period, though the car has been in daily use.

The Wolseley Co. tell us they are making leather shields to go under the motor and to fit each of their standard types of car. These are undoubtedly handy things to fit before the bad weather sets in, as they keep all the worst of the dirt from the engine, and at the same time leave it readily accessible.

\* \* \*

One of the missions of the autocar undoubtedly is to open up to dwellers in large towns the many beauty spots scattered up and down the country which are at present practically inaccessible owing to their being off the main lines of the great railway systems. Marlborough and other places in Wiltshire, for example, are now being rediscovered as suitable holiday resorts after their existence, except merely in name, has been almost entirely forgotten for over half a century. The same may be said of many other districts which, though not on the sea board, are yet most healthy and invigorating, and afford a pleasing change of scenery and environment from the rush and bustle of city life.



Sir Thomas Lipton's motor house.

## Correspondence.

### THE AUTOMOBILE VOLUNTEERS.

[2602.]—I have received a circular this week and a form of application (provisional) and a printed letter from Mr. Mark Mayhew inviting me to fill up the enclosed form and show my patriotism and sportsmanlike interest by joining the automobile volunteers.

I trust I am not deficient in either patriotic or sportsmanlike qualities, but I am afraid it is asking a little too much of both to expect one to become a driver of military officers and find one's own conveyance. This in spite of the tempting offer of thirty shillings per car per day and free petrol, and the comforting assurance that I will be treated by all whom I meet as a gentleman.

I suppose, because the occupation while so employed is rather unusual for a gentleman, the before-mentioned assurance is necessary.

H. O'CONNOR.

### THE RELIABILITY TRIALS.

[2603.]—I am glad to see from the Weston and Locomobile correspondence that the latter company is willing to vindicate its position by selling cars identical with those run in the trials for £200 and £300 respectively. What about other firms? The Baby Peugeot was run in class A for cars selling at £150 or less, but on writing to Friswell, Ltd., they state that their lowest price is £162 15s. Further, in *The Autocar* for September 27th, 1902, Mrs. Mayhew is shown driving a Baby Peugeot said to be "a facsimile of the vehicle which earned the highest marks in class A," and on asking if this can be purchased for £150 or less, I am told that the price is £162 15s.!

Surely some explanation is necessary to the public.

FAIR PLAY.

[We sent a proof of the above letter to Messrs. Friswell, and their reply is as follows:

"In answer to the letter of 'Fair Play,' Messrs. Peugeot have discontinued making the short wheelbased Baby Peugeot with two speeds and wire wheels, and the stock which we had at the time of the trials, amounting to over forty, have all been sold, and we have nothing now in stock except the 1903 carriage, which is a very different thing, fitted with wood wheels, long wheelbase, three speeds forward and reverse, and heavier axles; and the price from the 1st of October is £195."

So far as the title of the illustration which appeared on page 316 is concerned, this was, of course, nothing whatever to do with Messrs. Friswell. We were unaware that the vehicle shown was different from the one used in the reliability trials.—Ed.]

### A CHALLENGE TO MR. CITROEN.

[2604.]—Not being the party challenged, I would not reply to Mr. Leopold Canning's letter were it not for the fact that Mr. Canning himself adopts the position of champion to a firm which he imagines has been wronged.

The opening sentence of the letter, unfortunately, makes a good deal of the remainder superfluous, for Mr. Canning's candid acknowledgment that he often is too busy to read the papers leads me to think that he has only read one side of the question. Acknowledging the limited information which reaches him, I certainly think it, to say the least, ungenerous to refer to a certain race run at a certain place, etc. Mr. Citroen's straightforward and decided reply to the Ormonde Co.'s letter does not admit of any doubt on the matter to anyone who has seen the whole of the correspondence on the subject, and it is a great pity that anyone not possessed of the true facts of the case should see fit to reply to correspondence which one of the chief parties interested evidently thought better closed.

I need not repeat that Mr. Citroen *did not decline* to face a match. Now for Mr. Canning's experience. He states that he has seen better results obtained from the Kelecom than the Minerva. My experiences are the reverse. In August last, in the Circuit des Ardennes race, I saw an equal number of Kelecom motors and Minervas started. All the Minervas finished, and in good time, whereas, to my knowledge (and I remained at the finishing point after evidently the last had arrived), only one Kelecom returned.

At the Automobile Club's hour race at the Crystal Palace a Kelecom was entered, but did not start, although the rider and his machine were on the ground, and I personally returned with him. Surely, if the Kelecom wishes to show its capabilities, these were the proper places to do so, and the event could not be described as some victory run somewhere, etc.

Mr. Canning is willing to back his opinion with £20, which shows his good faith, if nothing more. I also am willing to back mine. I have three Minerva motors fitted to Phoenix motor bicycles, the bore and stroke of which are 62 by 70, 70 by 70, and 75 by 75. I am perfectly willing to pit either all three or any of those machines against any motor bicycles fitted with Kelecom motors of the same cubic capacity of cylinder, for a race of not less than fifty miles, and to forfeit the sum of £20 should my machine or machines prove to be the losers.

My sole object in replying to the challenge is that I wish to see fair play. No doubt Mr. Citroen can take care of his own views on the matter.

Challenges are very well in their way. Unfortunately, they are not always intended, as I have recently experienced with a Coventry firm, who have issued a challenge since February, and on my accepting it want a month to get ready, and run a five miles race on the road, whilst I must go to Coventry to meet them.

It being well known that I am a large user of Minerva engines, my taking up the challenge on Mr. Citroen's behalf is likely to be misinterpreted. To this I can only say that, as a matter of business, I buy the motor which, in my opinion, is the best on the market, and shall continue to do so, whether its name be "go slow" or "neverstop."

J. VAN HOYDONK.

[2605.]—We have been interested in the correspondence re Minerva and Kelecom motor cycles, and think the suggestion made by your correspondent, Mr. Leopold Canning, to be very sportsmanlike. With a view to making a sporting match, and more especially to provide good information to the public about to buy motor cycles, we beg to offer to include in the same match on the same terms our Red Star motor cycle.

A. W. GAMAGE, LTD.,  
W. A. VINCENT.

### CAMARADERIE AMONGST MOTORISTS.

[2606.]—In the historic town of Windsor, thirty miles from home, on a car only received from the makers the day previous, I found myself in trouble and unable, after repeated efforts, to start the engine. On testing, I found my only accumulator to read something under two volts. Fortunately, a gentleman on a car came up at this time, and, learning my trouble, at once volunteered, though I was quite a stranger, to lend me his spare accumulator. I thought my troubles were then ended, but after a few miles it proved that I had only found out the result of a short circuit, and had still to locate the leakage. Whilst busily engaged on this, two autocarists volunteered assistance, and one in particular took a great deal of trouble, and rendered me, a comparative novice, invaluable assistance, so that I was soon spinning homewards everything O.K.

This spirit amongst followers of our sport is, I am sure you will agree, sir, a most commendable one, and one which all motorists may well congratulate themselves upon, especially at this period, when so many of the general public are distinctly hostile.

HARRY H. LETTIS.

### COILS AND TREMBLERS.

[2607.]—We notice in your issue of September 27th an account of the new A.G. coil, as introduced by Mr. A. A. Godin. Permit us to state that this gentleman kindly placed a coil at our disposal for use on our new 40 h.p. racing car, which we have just built, and after using the coil, and running some few hundred miles on the roads, we can say it has satisfied us beyond our expectations. It is undoubtedly the very thing for high speed engines, and should prove a big success.

THE GENERAL MOTOR CAR CO., LTD.  
A. Down's (manager).

P.S.—We have no interest whatever in the sale of the coil, but mention the above experience as being of use to other automobilists.—A. D.

[2608].—A short time ago there was some considerable discussion as to electric ignition and coils, questioning the fact that English coils were reliable for use with high-speed engines.

It may interest your readers to know that we have recently fitted a two-cylinder high-speed Carpentier coil, made by Messrs. Van Raden and Co., to our 12 h.p. Gladiateur car, which is fitted with high-speed Aster engine.

Since the coil has been properly adjusted, which is, in the first place, a rather delicate operation, we have had absolutely no trouble with the car, and have now run some five hundred miles without giving the coil any attention whatever, and without a single misfire.

The effect of the trembler coil over the ordinary French coil fitted to these cars is a very great increase of power in the car.

I hope later to be able to give an account of this coil after we have run some thousand miles.

We may say in writing this we are not in any way interested in the Van Raden coil, and are simply writing this letter to show that an English trembler coil can be made which is reliable on high-speed engines.

WESTMINSTER MOTOR CAR GARAGE,

L. SAVORY.

#### DASHBOARD ORNAMENTS.

[2609].—Why, oh why, with our police in pig-sties and the ructions ruling at Reigate, does not some inventor with truth for his banner secure profits for his pocket by producing a reliable dial at a reasonable price, which, placed on the dashboard with three or four witnesses behind it, would record the speed at which a motor was moving, and possibly show by a bell an indication of its temporary excess? £7 to £8 is the price in America. Thirty to forty shillings should secure it here. In addition every motor owner would be glad to know his speed on certain grades. The mechanical difficulty is small, and the demand is certain—at a reasonable price. I should like to relegate my lubricating cups and electrical gears to the lockers where the heat would keep the former fluid in cold weather, and ornament my dashboard with (1) Speed indicator, (2) miles run, (3) drop gauge to show lubrication working, (4) energy of electrical ignition, and (5) clock. LORETTEP.

#### EXTERNAL NAMES ON RAILWAY STATIONS.

[2610].—I think motorists and cyclists have often found considerable difficulty in ascertaining their exact whereabouts when in the numerous towns and villages through which they pass. The local man generally takes some time before understanding an enquiry as to the name of his village. Some years ago I interested myself in endeavouring to get various railway companies to adopt the idea of naming their stations *externally*, so that he who runs may read, but I am afraid that it bore little fruit.

I enclose a photograph of a properly-named station entrance, which will clearly show what is required. I trust that you will find this worth putting before your readers, so that the matter may be considered by influential persons. If this was successful, the Post Office authorities might be asked to name the village post offices.

FRANK J. LOBLEY, A.M.I.C.E.

Mr. W. C. White has entered the commercial arena with the well-known White steam cars, which acquitted themselves so well in the late reliability trials, at 19, Prince's Street, Westminster, hard by the Aquarium, viz., the premises lately ran as the Automobile Club Garage. The White steam cars will be stocked here; parts will be held and repairs effected.

## Flashes.

During the summer months the Manchester Automobile Club have had ten runs.

\* \* \*

The Hozier Engineering Co., Ltd., inform us that the agreement with their London agents has now terminated, and that while arrangements are being made for an adequate London representative, the Argyll cars can be seen at the Farman Automobile Agency, Long Acre, W.C.

\* \* \*

The following wire was received last week from the Locomobile Company's agent, Herr Achenbach, of Hamburg: "Prince Henry of Prussia left Hamburg yesterday morning on his new Locomobile (style 05), and reached his castle of Hemmelsmark the same afternoon. His Royal Highness telegraphs that he is delighted with the car."

\* \* \*

Scarcely in keeping with the ethics of truth and justice were the words of Mr. Alderman Heap, who, in a motor car case at Blackpool, is reported to have stated from the bench that "some of these cars look as though they were going 12,000 miles an hour." Even as a figure of speech, this was very absurd—but at the same time it tells its own tale.

\* \* \*

It is a curious fact that in a fairly important town such as Banbury there is no motor expert in the whole place. We should fancy there ought to be a good opening for a mechanic who makes a speciality of motor cars and motor cycles. A member of our staff was badly stranded at Banbury on Saturday week last with a refractory carburetter, and, although there are two leading agents in the town, neither of them attempted to assist him in his plight. We are glad to hear that Mr. Page, of the White Lion Hotel, anticipates growing patronage from motorists by having a motor car pit sunk in his coachyard.

\* \* \*

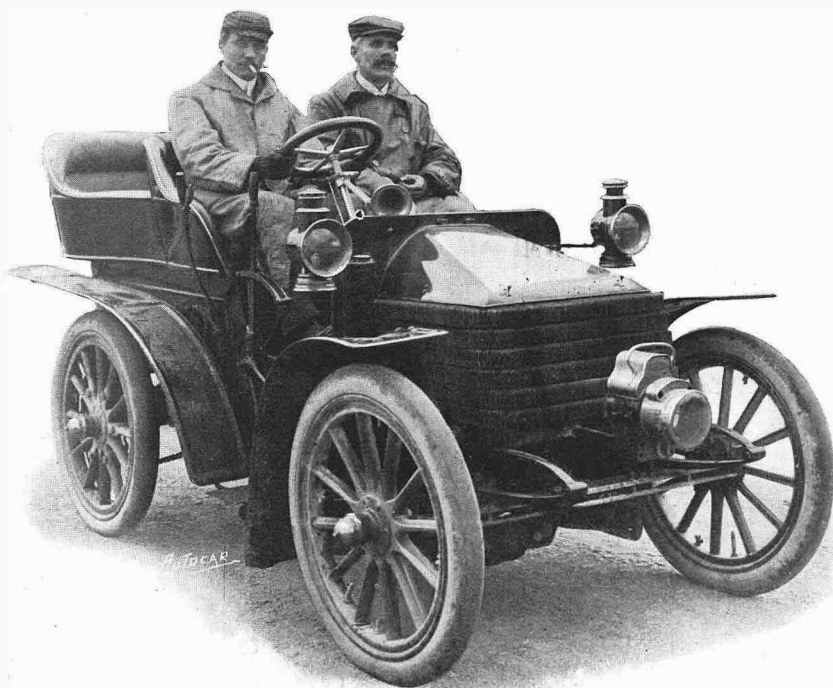
We hear that the Duke of Portland, who has a Lanchester, and also the Marquis of Zetland, are both extremely pleased with their cars. It is not generally known that Mr. Rudyard Kipling also owns a Lanchester. The Lanchester Co. have been working continually throughout the summer, and have maintained a steady output by means of night work as well as day work, and they are now able to promise delivery in a few cases as early as January next. At the present time, apart from private orders, they have contracts in hand for the War Office and for South Africa.

\* \* \*

The London premises of the Brush Electrical Engineering Co., at Victoria Works, Lambeth, S.E., are now equipped for all kinds of motor repairs and storage. There are store rooms, in which cars can be left for the winter by those who are going abroad or for other reasons do not mean to drive in the bad weather. There is a large covered-in washing yard, and a caretaker on the premises; and as the garage is so central, being only five minutes from Charing Cross and Westminster Bridge, it should prove of very great service, particularly now that the Prince's Street storage is closed.

On Friday night, about 10.45, we are informed by Messrs. Carter, Cutting, and Carter, jobmasters, of Hendon, N.W., a motor car with a party of gentlemen on board side-slipped when passing a hansom of theirs. The car just touched the horse on the fetlock, and as it broke the joint, the animal was killed by order of the police on the spot. The jobmasters tell us they believe the occupants of the car were unaware that they had damaged either horse or cab, and that they have no doubt when they hear that damage was done that the automobilists will communicate with them. Of course, it should be understood that we have no knowledge of the occurrence or its merits beyond what we have heard from the owners of the horse.

\* \* \*



Mr. H. Prosser, who drove the 10 h.p. Wolseley No. 41 in the recent trials, tells us he had a most successful run home to Glasgow on the same machine. The total running time between the Crystal Palace and Glasgow was twenty-seven hours, including a detour of some twenty miles and slow driving on account of fogs. No adjustments were made and nothing beyond the absolute wants of the car were attended to. The Clipper Continental tyres finished up their 1,200 miles run none the worse but for a few superficial cuts. Since the photograph was taken No. 41 has been declared the winner of the gold medal in Class D of the reliability trials.

Found on the Sandgate and Margate Road a New Orleans starting handle, No. 305. Owner should apply to 333, Rackham Street, Ladbroke Grove, W.

\* \* \*

Great care should be taken in driving across roads. It is astonishing how often a conveyance will turn up unexpectedly when one is passing by a cross road. Only the other day we heard of a man who had to pay over £200 to settle a case of damages caused by his carelessness in this respect. Of course, the motorist is more often in the right than not, but in this case it would appear he was in the wrong. At the same time, if reasonable care is used, the driver on the main road is superior, from a legal point of view, to the one who comes into the main road from a by-road. This, however, is a very weak reed to lean on.

The Bishop of Oxford, who preached at St. Mary's Church, Maidenhead, on Sunday evening last, made the double journey from town and back on a motor car.

\* \* \*

The partnership between Mr. J. C. Lyell and Mr. L. C. H. Savory, trading as the Westminster Motor Car Garage, at Victoria Street, and Kensington Place, Westminster, as engineers, has been dissolved.

\* \* \*

The Auto Lubrine Co. are making a special oil for gear boxes. They claim that it is of just the right consistency for the purpose, and that it reduces noise, and consequently friction, in the gear. We are testing some, and shall report on its behaviour shortly.

\* \* \*

The people of Reigate are much annoyed at the tactics of the police and the conduct of the magistrates in regard to motor cars, as the effect is to keep many desirable visitors from the locality. One of the most flagrant exhibitions of prejudice occurred the other day in the case of an automobilist, who was fined heavily for excessive speed, notwithstanding the fact that he was driving on his second speed of twelve miles an hour, and that at the place where he was driving two awkward bends occurred in the road, around which it would have been suicidal to drive even at the legal limit.

\* \* \*

Two Boer burghers, W. L. Jooste, of Klerksdorp, and H. T. Rood, of Ermelo, while visiting Biggleswade recently, examined the working of the new Ivel Agricultural motor drawing a double-furrow plough, and were much impressed

by Mr. Dan Albone's latest adaptation of the petrol motor.

\* \* \*

One of the most amusing patent specifications we have seen is a recent one from the United States, in which the inventor proposes to automatically control motor vehicles by means of the seat. When the driver sits on the seat the engine starts, and when he gets up, "or is accidentally thrown therefrom," the engine is stopped and brake applied. The inventor also provides means of locking the device out of action so that the driver is not absolutely bound to run the engine when his weight is on the seat. It is really a remarkable thing that people should be found to waste their money on such ridiculous ideas, more particularly as this invention is not only patented in the States but in England and abroad.

Oil separators on a car using superheated steam are a delusion. The oil and steam at such high temperatures form an emulsion which it is impossible to separate for practical purposes. Do not bother about separators; pass the steam into the condensers and have done with it.

\* \* \*

Speaking of a new speed indicator for autocars in the land of wooden nutmegs, a contemporary remarks that "fortunately, we have no need for such an invention over here. The magistracy have complete confidence in the speed indicators in blue, and nothing will shake it—until they get a good shaking themselves."

\* \* \*

Next Friday, October 17th, a paper on "Oil Motor Cars of 1902" will be read before the Institution of Mechanical Engineers at their headquarters, Storey's Gate, Westminster, S.W. Non-members of the institution who wish to hear the paper should write to the secretary of the institution for tickets of admission at once.

\* \* \*

As showing the reliability of the "F.N." motor bicycle, Mr. W. R. McTaggart sends us a list of long journeys which have been made within the last few days by purchasers of these machines. Some of the rides are very good, particularly when it is considered that the riders had no previous knowledge of motor cycles, and undertook them after one lesson. In fact, Mr. McTaggart tells us he has no more trouble after selling these machines than he does with the ordinary pedal-propelled cycle.

A company is in course of formation in Paris which will have as its object the placing upon hire on the streets of that city automobile cabs, to be engaged at 3.50 francs per hour.

\* \* \*

Last week at St. Albans, after a marriage ceremony had been performed, the bride and bridegroom were driven from church in a 12 h.p. Beaufort car. The bride's home was some three miles from the station, and some little consternation was caused when it was discovered that less than fifteen minutes were left to catch the train at St. Albans. However, we need not say that the train was caught.

\* \* \*

It is extraordinary what hasty criticisms are made by writers who know little or nothing about the subject on which they pose as authorities. A very striking instance of this has been with regard to the automobile volunteers. All sorts of smart papers—one which concerns itself rather intimately with service matters among them—have waxed sarcastic over the 30s. per day allowance, their argument being more or less to the effect that 30s. per day is nearly £550 per annum, and, consequently, who would not be a volunteer automobilist? They seem to be blissfully ignorant of the fact that the 30s. a day is only allowed while on service, and, further, that it will not cover more than three-fifths of the volunteer automobilist's out-of-pocket expenses. But what does this matter to the smart critic? His duty is to try to find fault with other people's actions, and to avoid doing anything himself except criticise.



Captain Morrison's 9½ h.p. Clement, here represented with its gallant owner at the wheel, was taken straight from the garage of the British Automobile Commercial Syndicate premises in Lon. Acre, and driven by the owner to its destination. Captain Morrison, who has but lately retired from the 3rd Cameronians, had had no previous experience of the car whatsoever. The body is by Clement-Rothschild, and the wheels are shod with Maison-Talbot tyres.



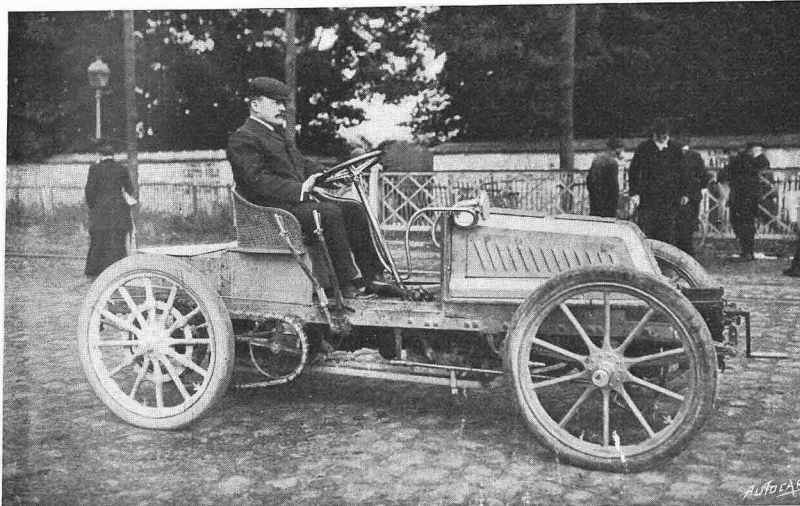
We recently described the Viben dust shield, and we now have the opinion of three private users who have tried it, and who speak very highly of it, one test having been of nearly three hundred miles over very dusty roads.

\* \* \*

It is not generally known that the Act of Parliament is clear upon the point of the obligation to stop a motor car when a driver of a horse holds up his hand. Of course, every driver knows that to stop when invited to do so means the courting of disaster, but still when the case comes before a court the point is one that is forcibly urged with an unpleasant result should one be "guilty of not stopping."

\* \* \*

We are interested to hear from Messrs. Friswell that for some time past they have been endeavouring to make an absolutely silent car, and that they are about to introduce a two-cylinder 8 h.p. Peugeot which it is almost impossible to hear in motion. They are also getting a four-cylinder 12 h.p. car, which they tell us can scarcely be heard except for the tick of the coil. We hope to try these carriages before very long.



The new 24 h.p. Georges-Richard with direct top drive (see page 374).

Mr Osmond Elim d'Avigdor-Goldsmid, B.A., LL.B., J.P., C.C., of Somerhill, Tonbridge, is the latest recruit to the ranks of automobilists, and has purchased an 8 h.p. De Dion car with a tonneau body, through Mr. A. Cornell, of High Street, Tonbridge. Mr. Goldsmid is to contest for Maidstone in the Conservative interest at the next election, when, no doubt, he will find his car very useful in reaching various parts of his constituency.

\* \* \*

Most favourable reports are being given in Hertfordshire and Bedfordshire contemporaries concerning Mr. Dan Albone's agricultural motor, which has again been demonstrating its usefulness before a large company of farmers and interested persons on a farm at Tinwell, near Biggleswade. The latest trials, like the previous ones, have been highly satisfactory.

Even in Ceylon a campaign against motor cars is in progress; but at the Colombo Court of Requests recently a plaintiff, who sought to recover Rs5 damages as a result of his horse being frightened by defendant's motor car, did not receive much encouragement, the action being dismissed with costs.

\* \* \*

The other day Mr. Henry Waterson showed us some excellent tool kits which he is now supplying. They contain tools and requisites for various well-known makes of car, the particular kit we examined being designed for a Daimler. The bags are made of the best English leather, and their appearance is such that no one need be ashamed of having one on his car, as it merely looks like an extra strong leather bag.

\* \* \*

The Fabrique Nationale Mfg. Co. are introducing a new model of their now well-known F.N. motor cycle next year. This will be fitted with a 2 h.p. engine, and will embody several important structural improvements which will, without doubt, greatly add to the efficiency of this excellent machine. Messrs. W. R. McTaggart, Ltd., have been entrusted with the sole agency for the United Kingdom, and are about to open a large distributing

stores in London, where they will be in a position to give immediate delivery of this motor cycle. They will be exhibiting the new model and component parts at the Stanley Show, to be held in London in November next.

\* \* \*

Among recent ridiculous statements concerning motors is that of the Rev. W. Pearson, M.A., the rector of Spofforth, Harrogate. He confesses himself to be an anti-motorist, and goes on to state that the daily papers have a special column for motor accidents. It would have been more to the point if he had mentioned the fact that most daily papers are open to devote a column to the outpourings of correspondents who know little or nothing about the subjects on which they write.

We always think that parsons

should be particularly careful before expressing their opinions on every-day affairs, as if they make a mistake it naturally shakes the confidence of their parishioners in their remarks concerning higher matters.

\* \* \*

We see that a well-known American firm has followed the example of Messrs. Brooke and Co. and the Maudslay Motor Co., and has designed a three-cylinder vertical engine. So far as three-cylinder horizontals are concerned, the Wolseley Co. is still alone.

\* \* \*

Motor depots are springing up in all parts of the West End. Time was when one could easily keep count of these places, but now every important thoroughfare has its depot, either as an independent business or run conjointly with the carriage trade.

## THE RELIABILITY TRIALS. THE JUDGES' AWARDS.

### Section I.—Motor Vehicles.

**CLASS A** (selling price £150 or less).—First prize, gold medal (No. 1), the Humber Co.'s 5 h.p. Humber bicycle; second prize, silver medal (No. 4), the Century Engineering Co.'s 5 h.p. Century tandem.

**CLASS B** (£150 and not more than £200).—First prize, gold medal (Nos. 10 and 9), the Locomobile Co.'s 5½ h.p. Locomobile; one medal between the two cars.

**CLASS C** (£200 and not more than £300).—First prize, gold medal (No. 23), Motor Manufacturing Co.'s 8 h.p. M.M.C. voiturette; second prize, silver medal (No. 24), the De Dion-Bouton Co.'s 6 h.p. De Dion voiturette. (In this class an extra silver medal is awarded to No. 29, 6 h.p. White steam car, for novel features and general excellence.)

**CLASS D** (£300 and not more than £400).—First prize, gold medal (No. 41), the Wolseley Co.'s 10 h.p. car; second prize, silver medal (No. 47), the De Dion-Bouton Co.'s 8 h.p. De Dion light car.

**CLASS E** (£400 and not more than £500).—No gold medal was awarded in this class. First prize, silver medal (No. 59), the Motor Traction Co.'s 7½ h.p. Germain light car.

**CLASS F** (£500 and not more than £600).—First prize, gold medal (No. 64), Friswell Ltd.'s 10 h.p. Peugeot car; second prize, silver medal (No. 63), the Speedwell Co.'s 6 h.p. Gardner-Serpollet steam car.

**CLASS G** (£600 and not more than £700).—First prize, gold medal (No. 69), the Wolseley Co.'s 20 h.p. car; second prize, silver medal (No. 74), the Motor Traction Co.'s 15 h.p. Germain car.

**CLASS H** (£700 and not more than £800).—No gold medal was awarded in this class. First prize, silver medal (No. 76), the Daimler Co.'s 12 h.p. car.

**CLASS J** (£800 and not more than £1,000).—First prize, gold medal (No. 84), Baron Henri de Rothschild's 20 h.p. Pascal car; second prize, silver medal (No. 82), the Maudslay Motor Co.'s 20 h.p. Maudslay car.

**CLASS K** (£1,000 and not more than £1,200).—First prize, gold medal (No. 88), Panhard and Levassor's 15 h.p. Panhard; second prize, silver medal (No. 86), the Daimler Co.'s 22 h.p. Daimler car.

### Section II.—Parts of Motor Vehicles.

**P.2.**—The Roadway Autocar Co.'s dust screen on No. 70 (10 h.p. Mors car).—The conditions during the trials not being satisfactory for proper test, so much dust being suspended in the air from other cars, it is suggested that the Roadway Autocar Co. shall be invited to submit to a further careful test. A sub-committee has been appointed to report.

**P.4.**—Wilson and Pilcher's piston rings on engine of No. 71 (W. and P. car).—Decided that a certificate should be sent that rings were in perfect condition after the trials.

**P.5.**—Wilson and Pilcher's commutator on car No. 71—Decided that in this case no award be made, as the judges considered the fitting lacked novelty.

It will be observed from above that in Class A, the second prize has not been awarded to the second highest score, as the 5 h.p. Baby Peugeot scored a total of 3,043 marks as against the 2,870 earned by the Century. Some explanation will no doubt be given of this, as, with the exception of the condition after the trial, the Peugeot scores were higher throughout. (See marks table, *The Autocar*, page 334, September 27th.) There is also the fact to be borne in mind that the price of the Peugeot has been somewhat increased since the trials owing to the makers having introduced certain improvements, and the conditions of the trials stipulated that the declared selling price should hold good till December 1st, so, considering all things, the Peugeot would have done better in Class B. There was never any question as to the winner of this class when it was seen what a magnificent score the Humber bicycle had made in the hill climbs, or, we should say, the hill climb, as it got no credit for its ascent of Westernham at 17.21 miles an hour, because the rider pedalled up the steeper part of the incline.

Class B requires no comment, except to say that the two Locomobiles thoroughly deserved the medal they jointly won.

In Class C the 8 h.p. single-cylinder M.M.C. voiturette is awarded the gold medal with the highest score of marks, and the little 6 h.p. De Dion, which showed so well on the hills, secured the silver medal with the second highest markings. This little machine would have done still better but for the heavy loss of marks on the first day, caused by the bursting of the water tank. The extra silver medal awarded to the White steam car, which made the third highest score in the class, will also be generally regarded as having been fairly won.

In Class D, No. 41, the 10 h.p. Wolseley, in taking the gold medal, establishes a record for its firm, as the 20 h.p. in Class G was a foregone winner, and No. 41, by securing the award, makes it the second year in succession that the Wolseley Co. have gained gold medals in two classes—a record of which the firm may well be proud. The De Dion, which had apparently secured a total of one mark more than the 10 h.p. Wolseley, is awarded the silver medal, as, since the marks were published, the total awarded for horse-power and weight has been reduced, so that it is four marks behind the Wolseley.

In Class E no gold medal was awarded, and the 7½ h.p. Germain, which only lost nine marks on the road during the trials, and comes out with a score well above any other machine in its class, takes the silver medal (the first prize), no other award being made. Had two medals been given, the 10 h.p. Decauville would have won second prize, and the 10 h.p. Ariel would have taken third place.

Class F.—Here the 10 h.p. Peugeot thoroughly makes up for the hard luck of the 5 h.p. by securing the gold medal with the highest score of marks. The silver medal is taken by No. 63, the 6 h.p. Gardner-Serpollet, which ran so extremely well and secured second highest marks total.

Class G.—The gold medal is handsomely won by the 20 h.p. Wolseley, and was, as we have said, a foregone conclusion for that car. The 15 h.p. Germain, which takes the silver medal with the second highest score, was also generally regarded as a certain second. It will be remembered that in this class the 8 h.p. Wilson and Pilcher and 12 h.p. Humber also did extremely well.

In Class H the silver medal only is given, and that to the 12 h.p. Daimler (No. 76), the poor performances of the other two machines robbing this class of the interest which it would have presented.

Class J.—The awards in this class are perhaps the best proof of the mistake which was made in not looking carefully to the brakes before they were judiciously tested, as the Maudslay only scored two hundred marks, owing to the back brake not holding well, while the Pascal, which only scored a total of 2,937 marks against the Maudslay's 2,915, obtained the maximum 250 for its brakes. The other Pascal was docked fifty marks through the brakes not being adjusted. The Maudslay beat the gold medal car for reliability, losing only three marks in the six days, while the Pascal dropped twenty, and it beat it for condition at the end of the trial, as it obtained the maximum five hundred, the only point on which it was not equal or better being under the heading of horse-power and weight and brakes.

For Class K, the gold medal is awarded to the Panhard, the top marker of the class, though the 22 h.p. Daimler (the silver medal car) made an excellent fight for second place, and only lost materially on the gold medal car in the points awarded for the hills and the horse-power and weight.

It will be seen by anyone who carefully compares the totals of marks mentioned above with the tables we gave on September 27th, pages 334 and 335, that slight discrepancies occur in some cases. These are due to the fact that some slight readjustments have been made by the judges on further investigation. We believe the only material effect on the gold medal awards will be found in Class D.

Motorists visiting Stratford-on-Avon will find all their requirements supplied by A. Bolland and Co. The principal of this firm, who has had an extensive experience with most of the leading makes, is an expert engineer and electrician.

## THE AUTOMOBILE CLUB TYRE TRIALS. THE FIFTH WEEK'S RESULTS.

DISTANCE, 705½ MILES. TOTAL DISTANCE COVERED, 3,705½ MILES.

(For the first week's results see "The Autocar," Sept. 13th, page 275.)  
 ( " second " " " " 20th, " 302.)  
 ( " third " " " " 27th, " 337.)  
 ( " fourth " " " " Oct. 4th, " 361.)

Official No.	H.P.	Car.	Tyres.	Weight.		Marks lost during week.	Cause of loss.	Total Marks lost.
				Laden.	Unladen.			
				Tn. cwt. qr. lbs.	Tn. cwt. qr. lbs.			
T 1	12	Panhard.	Dunlop.	1 11 2 0	1 5 1 0	63	Pumping, hind near cover burst and replaced.	102
T 2	11	Napier.	"	1 11 0 0	1 5 1 0	10	Pumping, nail wiped off hind off cover, extracting pin.	66
T 3	10	Panhard.	"	1 4 3 16	0 19 3 0	19	Pumping, taking out inner tube and tightening valve.	152
T 4	10	Wolseley.	"	1 6 0 0	1 0 1 0	36	Pumping, changing three inner tubes, puncture.	298
T 6	12	Panhard.	Maison-Tib't	1 1 2 0	0 15 3 0	89	Repairing cover, pumping, attention to front near gaiter.	538
T 7	11	Napier.	Collier.	1 11 1 0	1 5 0 0	7	Pumping, extracting nail.	44
T 12	16	Napier.	Midgley's.	1 16 2 0	1 11 1 0	3	Pumping.	69

NOTE.—Owing to delay caused by burst water tube and burnt exhaust valve, T2 on Monday returned from Odiham instead of completing journey, thus losing 55½ miles on Thursday. T4 ran home from Bishops Stortford *via* Epping instead of Hatfield, thirty miles off route. T2, greasy condition of road caused driver to return after running eight miles on the route. This car has 284½ miles to make up to complete trial.

The following were the runs: Monday, Winchester (151½ miles); Tuesday, Eastbourne (143 miles); Wednesday Chichester (145 miles); Thursday, Cambridge (118½ miles); Friday, Folkestone (147½ miles).

### THE FINISH OF THE TESTS.

The first car to complete the total distance of four thousand miles, the distance set for the trials of the entered tyres, was car No T1 (a 12 h.p. Panhard), driven by Mr. A. Mosses, and officially observed by Mr. H. Carden, the assistant secretary for the trials, who was accompanied by a representative of the Maison Talbot, who also have tyres in the trials. The car arrived at the club garage in Piccadilly at 10.59 a.m. on Wednesday last.

Six minutes later Mr. George DuCros's 10 h.p. Panhard (T3) also drove into the garage, completing an equal tale of miles. The official observer on board was Dr. Loxton Hunter, and the trade observer a representative of the Collier Tyre Co. Both the above cars are shod with Dunlop tyres, so that, though two French built cars are the first to get the four thousand miles, they have run on English-made tyres throughout.

The third car to finish was the 10 h.p. Wolseley, driven by W. Bracewell. This arrived at the club's garage at 1.30 p.m. on the same day, being 2h. 25m. after T3. The remaining four competitors are several hundred miles in arrears of mileage. The three first cars to finish were all fitted with Dunlop tyres.

D1, the first car to finish, lost 102 marks; T3, the second car, 152 marks; and C4, which came third, 322 marks. Of course, this does not include the resiliency traction or the detachability tests. The other four competitors are running off their arrears, which amount to some hundreds of miles, and which they expect will be finished next week.

A meeting of the judges was held at the Club premises, 119, Piccadilly, on Friday, October 3rd. There were present Col. H. C. L. Holden, R.A., F.R.S., Major Lindsay

Lloyd, R.E., and Capt. Nugent, R.E. Mr. H. Carden, assistant secretary to the judges' committee for tyre trials, was in attendance. The assistant secretary submitted a detailed report of the mileage run (3,705½), and inflations, repairs, etc., to tyres during the first five weeks of the trial. It was directed that this should be published in the club journal. After examination of the tyres, photographs, etc., it was decided that the trial should not be extended beyond four thousand miles. A letter was submitted from Mr. S. E. Edge as to arranging speed, resiliency, and other tests of tyres, together with a memorandum from the assistant secretary. It was decided that the necessary measures should be taken, and that detachability and other tests should be made, commencing on Saturday, October 11th. A letter protesting against the use of gaiters to protect cuts in the outer covers was received, and it was decided that gaiters could not be allowed, except as a temporary measure to enable a car to return to the garage. A protest against the removal of tyres during the substitution of another car for one which had broken down was considered, and it was directed that the competitor should be informed that the work had been done under the observation and with the full knowledge of the judges, who would take into consideration the benefit likely to accrue to the tyres by the temporary removal. Mr. Midgley's application to be permitted to submit his experimental tyres to a test over a patch of road laid with loose mrolled stones, broken flints, and glass bottles was considered. It was directed that all competitors should be invited to accept or decline this test, which would be carried out in the presence of one or more of the judges on Saturday, October 11th. An application from a competitor for permission to exhibit the car fitted with competition tyres, for advertising purposes, was considered. It was decided that the competitor should be informed that the proposed this being done.

THE UNCONTROLLABLE HORSE.

Seventy-one Persons Killed and 489 Injured by Horses in Forty Days.

Our researches have extended over forty days, with the terrible results above given. Many of the accidents are solely attributable to carelessness on the part of drivers and a too implicit confidence in the behaviour of the horse. It frequently happens that animals which have hitherto shown no disposition to vice or even uncertainty in their behaviour fall away from grace upon very slight provocation. One or two fatal accidents have, during the past week, been caused by this over-confidence. Thus, in one instance, a hitherto quiet horse was left grazing by the roadside with a lady in the trap while another lady alighted to gather plants. The horse's bridle slid down over its head causing the animal to take fright, with the result that the occupant of the trap was killed. In other cases carters in charge of horses without reins, persist in lazily sitting on the shafts of their vehicles, and some even fall asleep, thus losing all control over their animals. A case in point occurred at Warrington the other day with fatal results, and the Coroner, in the course of the inquiry, said to the driver: "If you had no reins, you had no control over the horse. They talk of danger with motor cars and cyclists, but there is more danger with a horse and vehicle on the road without reins. What have you to say for yourself?" Witness: "I am very sorry." Then at the close of the inquiry the Coroner, addressing the witness, remarked that "the authorities were particular about fining motor car drivers, who could pull up almost immediately, and cyclists, and yet he had a horse and lurry and was driving without reins. He should tell his firm they had better have reins to their horses or they would be getting into trouble." The fact is, that by reason of the roads having been unused except by purely local traffic since the disappearance of the stage coach, horse drivers have grown careless, and now that fast horseless traffic has appeared they are taken as it were by surprise, and those who are interested in the sale and rearing of horses resent the innovation. They will, no doubt, become reconciled and educated to it in time, but meanwhile many victims are claimed.

	Injured.	Killed.
Brought forward from last week ...	411	53
<b>SEPTEMBER 26TH.</b>		
One accident causing injuries ...	2	
One accident, no injuries ...		
<b>SEPTEMBER 27TH.</b>		
Twenty accidents causing injuries and deaths ...	28	3
Five accidents, no injuries ...		
<b>SEPTEMBER 29TH.</b>		
Nine accidents causing injuries and deaths ...	6	4
One other accident, no injuries ...		
<b>SEPTEMBER 30TH.</b>		
Nine accidents causing injuries ...	10	
<b>OCTOBER 1ST.</b>		
Ten accidents causing injuries and deaths ...	11	2

	Injured.	Killed.
Five accidents, no injuries ...		
<b>OCTOBER 2ND.</b>		
Four fatal accidents ...		4
Three accidents causing injuries ...	3	
Seven accidents, no injuries ...		
<b>OCTOBER 3RD.</b>		
Twelve accidents causing injuries and deaths ...	12	3
Two accidents, no injuries ...		
<b>OCTOBER 4TH.</b>		
Nine accidents causing injuries and deaths ...	10	2
One accident, no injuries ...		
	493	71

English carriage builders are rapidly acquiring the art of automobile body building, and while following the methods of the big French houses, are incorporating those excellent qualities of sound genuine work and magnificent finish which have been the glory and renown of the English carriage builder the world over for years and years past. Of this we had further conclusive proofs when visiting the Clingoe Automobile Syndicate, Ltd., which has its habitat at the establishment of those widely-known carriage builders, "Kesterton's," at 93 and 94, Long Acre. Some samples of body building, in design, construction, and finish, which we were privileged to see in the ateliers of this renowned old house, were eloquent proof of what we have stated. The Clingoe Automobile Syndicate, Ltd., import chiefly the chassis of the De Dietrich, Panhards, Darracqs, De Dions, Cléments (petrol), and the Prescott and Conrod steam cars they stock, and are open to design, build, and finish bodies thereto to suit the fancy and convenience of any of their customers. At the present moment they are showing a 10 h.p. Panhard with phaeton tonneau body, two or three Cléments and other cars, with bodies

built, finished and upholstered in a style we have never seen surpassed. The stock of cars held by the Syndicate at the above address is well worth inspection by any intending purchaser.

\* \* \*

We hear that Mr. Jarrott has decided to sell his 70 h.p. Panhard on which he won the Ardennes Circuit and later made world's records at Welbeck. It will be remembered that in the Ardennes Circuit he covered 321 miles in 357 minutes, and that his Welbeck kilometre time was 28 1/5s, which still stands, as the alleged beating it received at Deauville did not hold good, owing to the error made in measuring the track. We have no doubt that some amateur sportsman will take advantage of the opportunity, as Mr. Jarrott has done much more than merely drive the car, as he has tuned it up to a state of absolute reliability. It is quite fast enough to show well in next year's races, particularly as it is now recognised by all who follow automobile sport that a thoroughly reliable car which keeps going right through a race stands a much better chance than one which may be slightly faster but less reliable.

## POLICE TRAPS.

Police court proceedings during the past week have revealed the existence of many police traps set to catch unwary autocarists. Indeed, in some cases the cars are stopped no matter how slowly they may be travelling. The police activity in Yorkshire, which we mentioned last week, shows no sign of abatement. An antipathy has also arisen in some parts of Scotland, particularly in Perthshire, an area which has hitherto not been infected. This hostility would appear to be the reaction consequent upon the decisions of Sheriff Lee, of Forfar, who, it will be remembered, has shown no sympathy with the persecution of automobilists. His action appears to have given rise to considerable comment by the Forfar County Council. In the course of the discussion it is interesting to note that one of the members (Mr. H. T. Munro) said that one of the law officers of the Crown had told him that the twelve-mile limit was one of the most rotten laws ever invented, and that for his own part he never stuck to it when motoring.

In regard to the condition of Yorkshire Mrs. Mary E. Kennard, of Market Harborough, writes: "Having recently been to Scotland and back on 'Sir Charles,' I beg to substantiate the warning issued in your paper as to the condition of Yorkshire. The whole county appears one vast network of traps and ambushes. What with measured quarters, halves, and whole miles, police on bicycles, police in uniform, police in plain clothes, and stop watches galore, the careful motorist stands no better chance than the imprudent one—in fact, the fast cars being harder to catch, the slow are made to pay the penalty. Policemen bounce out from behind hedges and lay ambushes in solitary cottages on the most deserted-looking roads. The inaccuracy of their timing is simply ludicrous. Surely county magistrates should not encourage these men to draw on their imagination, or order them to perform mean, underhand, unmanly, dirty work, which must inevitably, in the long run, destroy not only their manners, but the whole 'morale' of the force."

The police have a measured quarter of a mile at

Sand Milton on a favourable gradient for speed, and they lie concealed in a cottage close to four cross roads about eight or ten miles south of Northallerton. In two instances the inspectors admitted that they had instructions to stop every car, and certainly they act up to their instructions. The Northallerton District Council are also joining in the crusade by passing resolutions, but their action can be easily explained by interested motives.

There are police traps on each side of Dorking, one going down from Leatherhead, between Burfort Bridge and the railway, and the other just past the railway on the road to Horsham. The police here are particularly active on Saturday afternoon and Sunday.

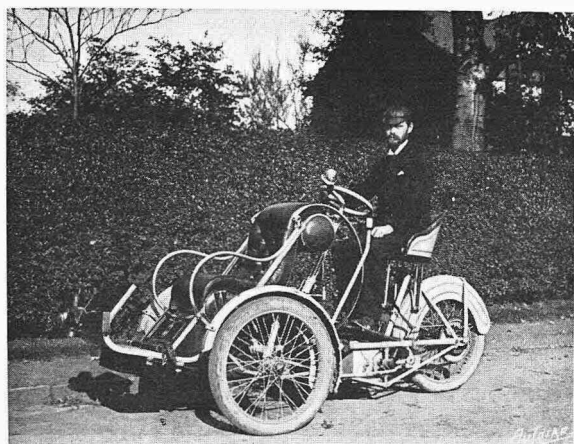
In regard to the trap at Ripley a correspondent writes: "I note that in the case of a Mr. Savory summoned at Ripley recently his lawyer stated that he had measured the distance given as 176 yards, and found it to be 143 yards, and he also stated that had the sergeant's watch been correctly timed, it would have shown that Mr. Savory was driving at twelve, and not eighteen, miles per hour. As over forty motorists have been summoned at Ripley and fined, may I make, through your columns, the following suggestions to the Automobile Club: (1.) That they send an independent surveyor to measure this 176 yards. (2.) That next Sunday they send an observer with a tested stop watch to station himself in Ripley opposite the police, and to time and watch their proceedings, as I feel sure that if there has been any mistake in the timing or marking the local magistrates will act fairly in the matter. Various suggestions have been made in your columns with reference to motorists passing and warning one another of underhand police traps. May I make another, viz., raising the left arm vertically by the driver and sounding, say, one 'toot' per mile to signify look out so many miles ahead. But mine, like other suggestions, will be useless unless given out to be used, say, semi-officially by the leading club. I hope you will allow me to ask that body to consider it."

Mr. E. W. Hart, of Luton, offered a hundred francs prize at the Gaillon trials to be awarded to the light car doing fastest time on the hill.

\* \* \*

The Colonial Secretary and Mrs. Chamberlain were seen out driving on an autocar the other day, and the newspapers promptly announced the fact, assuming that the car was the right hon. gentleman's own. A Birmingham evening paper, in an obviously-inspired paragraph, contradicted the statement, and explained that Mr. Chamberlain had not yet invested in a motor car, but that the error probably arose from the fact that the Colonial Secretary and Mrs. Chamberlain had been spending a few days at the residence of Mr. W. Chamberlain at Ledbury, and had been indulging in a few rides upon that gentleman's car. The curious point is that the two paragraphs appeared almost side by side in the same paper.

One day last week some extraordinary correspondence appeared in the *Standard*. A writer signing himself "A Sussex Magistrate" compares the ingenuity of the motor engineer with that of persons who make burglar's tools, while another one, who disguised himself under the title of "Experienced Engineer," actually stated that practically no brakes on motor cars were fit to do their work when wanted. This proves that while he may be experienced he is not experienced in motor matters, and should refrain from comment till he is. At the same time it is very extraordinary how many engineers who are not motorists are prejudiced against the autocar. They theorise and condemn without knowing from practical experience what they are talking about, and they are really no more fit to express an opinion on motor cars than is, say, a locomotive engineer to give a useful opinion of the merits of a marine engine.



Mr. F. J. Lobley, A.M.I.C.E., and his new Eagle tandem. This is the latest pattern Eagle, with the new  $5\frac{1}{2}$  h.p. genuine De Dion engine (the improved  $4\frac{1}{2}$  h.p. with larger valves and fly wheels). Mr. Lobley tells us that he considers the machine a great advance on previous cars of the type, as the driving seat is exceedingly comfortable, as well as the front seat, and with the wheel steering the direction is good, while he can climb most hills on the high speed.

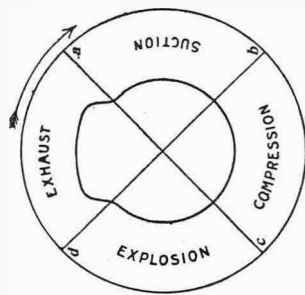
## Answers to Correspondents.

### QUERIES OF GENERAL INTEREST.

#### VALVE SETTING.

Q.—I should be very much obliged if you could kindly give me some information with regard to my  $1\frac{1}{2}$  h.p. Minerva motor bicycle. I have recently had cause to put in a new two to one gear, and on putting the machine together I cannot get anything more than the feeblest pop in place of an explosion. The exhaust valve opens at the *bottom* of the explosion stroke, and does not close till well after the beginning of the induction stroke. To this latter I attribute the fact that the explosion is so feeble. Could you give me any diagrams showing the correct position of exhaust with regard to the various parts of the stroke?—AJAX.

A.—The exhaust valve should open when the piston is within about 2 mm. of the end of the stroke, and should close when the piston has just commenced its downward stroke. The feeble explosion is evidently due to an insufficient charge being drawn into the cylinder; this may be accounted for by the exhaust valve remaining open while the piston is commencing its suction stroke; the inlet valve spring may also be a trifle too strong. The diagram shows the position of the exhaust valve cam during one revolution, which is equal to the completion of one cycle in the motor. The first quarter of its revolution, commencing on the line *a*, and finishing at *b*, equals the first downward stroke of the piston, which is the suction stroke. From *b* to *c* is the compression stroke, and from *c* to *d* is the firing stroke. When that portion of the cam on the line *a* reaches *d* the exhaust valve commences to rise, and



remains open until the line *a* is reached, when the cycle of operations commences again. The position of the piston in relation to the exhaust valve may be easily checked by removing the plug from the centre of the cylinder head and inserting a knitting needle, which will indicate the position of the piston, while the lift of the valve may be noted by watching the valve plunger.

### MOTOR BICYCLE DRIVING.

Q.—(1.) Is the object in ideal driving of Minerva to close the throttle as much as possible, and to regulate the quality so as to produce a mixture which explodes with throttle nearly shut, or should plenty of air be admitted and throttle opened accordingly to give plenty of this mixture, that is, is a little strong mixture best or a lot of medium strength? (2.) In practice I find advance sparking on Minerva does not cause backfire even when going slowly. Why? (3.) Here again, (A) is the ideal running to use small amount of mixture and to get sparking well forward, or (B) to use more mixture and have sparking less forward? (C) Is not (A) the more economical? (D) Which is hardest on engine (B) or (C)?—W.A.D.

A.—The ideal driving of a Minerva or any other petrol motor is to use as little mixture as possible and fire it early. By so doing the best results are obtained from the expansion of the gases, while at the same time the work is less hard upon the engine. The best mixture is one containing the largest amount of air consistent with a strong explosion. The best way to find it is, when the engine has started, to open the air as wide as it will go without stopping the engine. Gradually draw back the air lever until the engine gives a strong beat with plenty of power. This indicates a good mixture. Less air gives a bad mixture, which smells strongly at the exhaust, and fouls the inside of the motor and valves. Your contact breaker is evidently incorrectly set. See if you cannot adjust the connecting rod to push it out to its farthest limit. The firing is late even when the contact breaker is advanced as it stands at present.

### TO CORRESPONDENTS.

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

D. C. H.	J. L. F.
E. E. P. Tindall.	R. H. S.
W. H. Johnson.	S. A. Smith.
G. A. Wingfield	R. Janson.
(Richmond).	F. Percival Jones.
Hunt (Kettering).	Hubert Colls
L. T. Brownlee	(Belfast).
(Plymouth).	C.C.C.
G. H. Lefebvre	J. C. Laker.
(Shaftesbury).	E. S. Fletcher.
M. T. Ritchie.	W. H. Bellian.
Lew. Bannerman	S.H.R.
(Bournemouth).	E. W. Jackson.
H. H. Roberts	G. Beissbarth.
(Lewisham).	J. Stephens.
Kilvenside.	J. Scotton.
R. A. McRennie.	H. H. Armstrong
E. McAdams.	(Tooting).
T. Pye.	P. Brown.
H.W.G.	H. Hughes.
H. G. Morgan.	
C.E.N.	

Our thanks are due to the following for items of news and various topics of interest which have been or will be dealt with: E. West, W. H. Walker, T. Shaw, E. A. Grant, A. L. Davies, B., J. E. Veale, A. Campbell, A. Leeds Motorist, M. E. Kennard, J. Mitchell, H. Whitfield, French Chauffeur, A. Constant Reader, Thomas Shaw, R. B. Harvey (Ceylon), and D. Hughes Morgan.

We are obliged for the following letter: Sydney R. Thompson.

### THE AUTOMOBILE MUTUAL PROTECTION ASSOCIATION, LTD.

A meeting of the general committee of this association was held at its registered offices, No. 88, Chancery Lane, W.C., on Friday, the 3rd October, and several members of the committee were present. The Secretary (Mr. Geo. R. Helmore) reported a large amount of business which had been done since the previous general meeting, and it transpired that much useful assistance had been rendered to several members. The Secretary further reported that since the previous meeting of the general committee, several new members had been elected, including the Maudslay Motor Co., Mr. E. H. Arnott, Messrs. Horsfall and Bickham, the Langdon-Davies Electric Motor Co., and the London Motor Garage Co., Ltd.

A financial statement showing a satisfactory condition of things was submitted and approved.

The next meeting of the general committee was fixed for Friday, the 7th November.

The King of Italy's generals are in despair. His Majesty, they think, is too active, and—here lies the real sting—goes to the manoeuvres in a motor car, by this means easily reaching the farthest camp.

\* \* \*

Mr. C. L. Schwind writes: "For the information of automobilists travelling in the Eastern Counties, I should like to mention the excellent way in which a repair was recently carried out for me by Mr. Robinson, of Beccles. I had a bad breakdown with a live axle car, owing to the cutting up of a ball race. This occurred on a Saturday afternoon, but Mr. Robinson and his assistant (Mr. Groves) did not hesitate to tackle the job at once, and not only worked late on Saturday night, but most of Sunday. The result was a very good repair, and I can recommend Mr. Robinson as not only a courteous but thoroughly capable man, and most reasonable in his charges."

\* \* \*

We have received from Mr. D. Citroen some details of the improvements which are being introduced into the Minerva motor bicycle for 1903. Among them we may mention that the cylinder bore will be increased from 62 mm. to 66 mm., the stroke remaining 70 mm., as at present. Both the inlet and exhaust valves will be mechanically operated, and the short bend has been taken from the exhaust pipe. The silencer is increased in size, and a spray carburetter will be used, while a single lever will work the exhaust valve lifter, advance the spark, and cut off the current, but the handle-bar switch will be retained for use in any sudden emergency. The cylinder and head are to be cast in one, and the piston supplied with three rings instead of two. Bearings of greater length and diameter will be used and all other parts correspondingly strengthened. A number of other detail improvements have been made, and an alternative pattern of the engine will be turned out for fitting vertically when required in place of the usual Minerva position.

## New Patents.

This department is conducted by Mr. G. Douglas Leechman, consulting engineer and registered patent agent, 18, Hertford Street, Coventry; 32, York Street, Dublin; and 6, Exchange Chambers, New Street, Birmingham; from whom any further information respecting patents, designs, and trade marks may be obtained.

The following specifications were printed and published on 2nd October, 1902. All notices of opposition to the granting of patents on the several applications should be filed by 17th November, 1902.

1901.

- 19,775.—W. Slinger. Single track motor tricycle.  
 21,270.—T. B. Browne and F. L. Martineau. Sight feed lubricators with detachable glass tubes.  
 22,028.—W. Meischke-Smith. Cooling cylinders by blowing air through loose moistened sub-divided conducting material held in a casing surrounding the cylinder.  
 22,223.—P. Manguin and H. P. Martin. Contact breaker in which the trembler block makes contact with a conducting nose piece carried by a notched disc of insulating material.  
 22,257.—A. W. Maley. Speed indicator in which an electric current is used in transmitting the result.  
 22,664.—L. Renault. Variable speed, reversing, and clutch mechanism in which the drive is direct on the top speed.  
 23,561.—J. J. Bourcart. Constant level device for carburetters in which the air is led through a layer of the liquid.

1902.

- 428.—A. G. Quibell. Collapsible stand for motor cycles.  
 17,295.—F. Reichenbach. Regulating device in which the governor acts on valves controlling the gas, air, mixture, and (tube) ignition.

## NOTICES.

### SUBSCRIPTIONS.

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

GREAT BRITAIN.			ABROAD.		
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### TRADE NOTICES.

The London Publishing Office of *The Autocar* is at 3, St. Bride Street Ludgate Circus, E.C., where news-vendors and others can always obtain copies after 1 o'clock on Friday mornings.

Messrs. W. H. Smith & Son take *The Autocar*, and if ordered at one of their bookstalls they will supply it regularly at such place. Anyone not being so supplied should write to Messrs. Smith, or their head office, Strand, London, W.C.

PARIS AGENTS: M.M. Boyveau & Chevillet, 22, Rue de la Banque.

### HOW TO ADDRESS LETTERS.

EDITORIAL matter and general queries should be addressed "The Editor, *The Autocar*, Coventry."

ADVERTISEMENTS and Business Communications should be sent to LIFFE & SONS LIMITED, Coventry, at 3, St. Bride Street, Ludgate Circus, E.C.

Communications to the Editor should be written on one side of the paper only, and must be authenticated by the names and addresses of the writers—not necessarily for publication, but as a guarantee of good faith.

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Postal Orders.—Subscribers and advertisers are particularly requested to use postal orders when remitting.

## IN LAKELAND.



Mr Buxton and friends on a Locomobile waiting on the landing stage at Ambleside for the steamer.

The War Office trials of the road rail ring tractor, which was illustrated in *The Autocar* last week, were successfully carried out on September 29th, 30th, and Oct. 1st, 2nd, and 5th, at Aldershot before a number of military experts. The claims made for this system were more than substantiated by the performances of the machine, and Mr. C. T. Crowden, of Leamington, who was instrumental in introducing it to the notice of the War Office, is to be congratulated on the result. We intend going more fully into the matter next week.

\* \* \*

On Saturday last, at the Aylesbury Petty Sessions, Mr. W. H. Kitto was fined £1 and 9s. 6d. costs for not having a red lamp on the back of his Gobron-Brillié car, although clear testimony was afforded that the red back lights of his Dietz dashboard lamps were clearly visible to anyone driving in a vehicle, however close to the car, and were also just as easily perceived by a pedestrian when fifteen yards from the rear of the car. Nevertheless, the Aylesbury Bench concluded that the red back lights of the Dietz lamps did not comply with the regulations of the Local Government Board, and imposed the above fine. As no mention of distance appears in the L.G.B. regulations, we think this would form a good case for test.

Two new articles which Messrs. Gamage, Ltd., are now putting upon the market will, we are sure, be welcomed by lady automobilists whose souls revolt at the disfiguring goggles. They are the "Adele" combination mask and wrap and the "Desirée" combination mask and hood. The former refinement has an ample sight-piece of clear fine mica firmly attached to the face shape of silky net, which allows unimpeded vision with free respiration and ventilation. The Japanese silk wrap (in any desired tint) is fastened firmly to both mica and net, and by an ingenious and simple arrangement of elastic and ribbon is drawn around the hat and pulled together in "gathers" at back and front to the neck. The front gathers are so arranged that they can easily be loosened for the use of the handkerchief, without any disarrangement of the wrap. The "Desirée" hood is made with the same combination of mica, net, and silk, and covers hat, head, and face, completely, preventing the powdering of the hair, etc., by the dust brought into the back of the car by the following draught. The hood is easily attached by four small buttons placed up the side, and has the same ingenious arrangement of draw silk as the "Adele" wrap. Either wrap or hood is made in neutral shades of silk, viz., pale fawn, dust colour, French grey, white, or steel grey.