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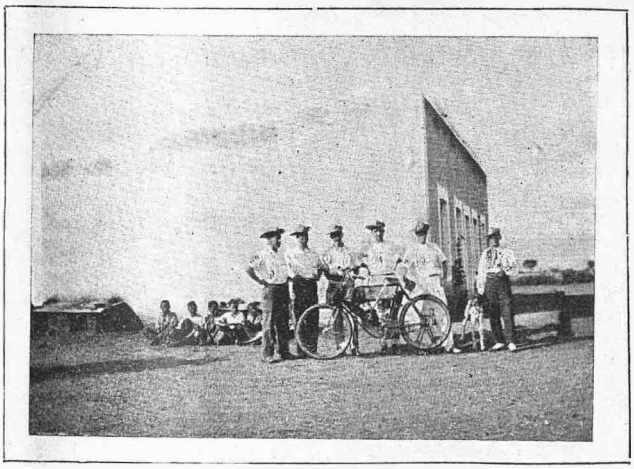
# CAPETOWN TO BULUWAYO ON A CHAIN-DRIVEN MOTOR-BICYCLE.—Continued.

**Ridden by the Author, HENRY E. BENNETT.**

I struck some bad roads, the surface consisting of big stones and ruts, the stones often being hidden by the grass. On getting to lower ground, which was extremely swampy, I had to ride on the veldt hundreds of yards at a time to get past bad places, and in many cases had to push two and three hundred yards. About 5.30 p.m. I struck Maribogo Pan, where there is a large native Stott.

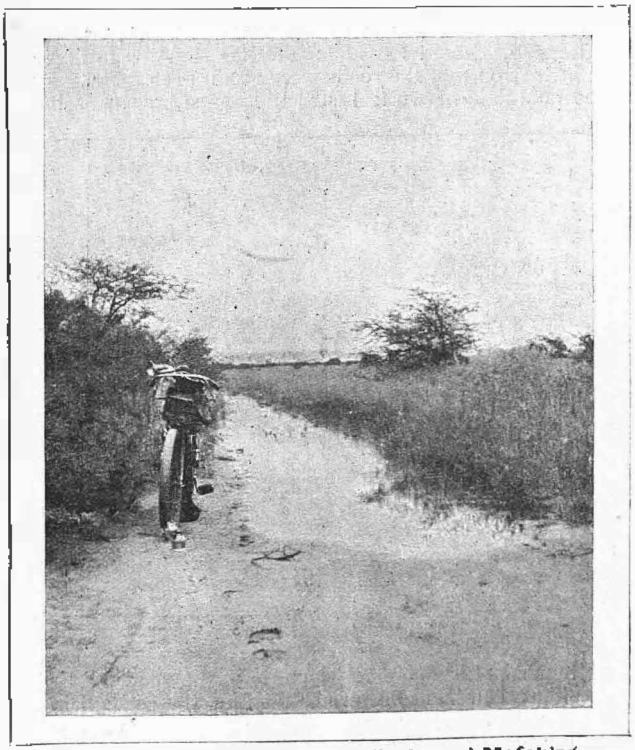


**Police Camps, Ramatlabama.**

Five miles further I came to Maribogo, after wading through water four or five times between the two places. Dinner was being served at the hotel here, so I soon forgot about my wet feet. The next morning, to my joy, I learned that the roads were good to Mafeking, although my informant had not been on them since the rain commenced. I opened the throttle and advanced the spark, but my triumphant progress was soon stopped by my falling into a small washout, hidden by the grass, in trying to avoid one that I could see. In looking at the photo, one can see the two small pans of water. I received a severe shaking, which made me ride very cautiously for the next mile or so. After this the roads were chiefly under water, but when I got on to higher ground I was able to make up for the time spent in wading through miles of swamp ground. Around here the grass grows from three to five feet high, so that when travelling in the chosen rut one has the grass cutting one's knuckles, and every few yards there is a thorn bush to avoid. One stretch of about six miles it was impossible to ride through; it consisted of black peat, which, when wet, picks up three or four inches thick, and chokes the mudguards, making it quite impossible to ride or even push the machine. I made for the line, but found the ballast so rough that I had to balance the machine on a rail for over a mile. The track getting better, I was able to cover the next 16 miles with an advanced spark. Unfortunately, on sighting Mafeking, I was tempted to take to the road again, but after travelling a mile came to grief in the black mud, the worst of its kind I have ever traversed. I struggled for nearly two miles before the roads became rideable, having to

CLEAN THE MUDGUARDS EVERY FEW YARDS,

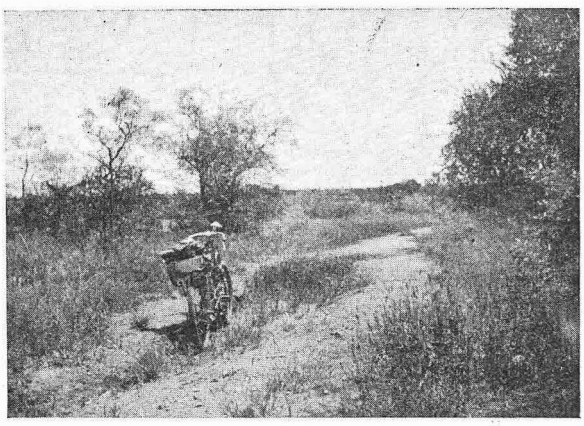
during which time I had to wade knee-deep twice. Mounting once more, I was able to reach Mafeking in good time for dinner. On examining my tyres the next morning I found some deep ridges cut nearly through to the canvas caused by sharp stones picked up in the mud when the mudguards were choked. This accounted for the smell of burnt rubber, which I had noticed the day before, but had been unable to locate owing to the dirty state the tyres were in. On enquiring for my petrol at the station, none had come to hand, so I tried to get some locally. Not a drop was to be had anywhere; so I wired to Kimberley. Whilst killing time I took the mudguards off, with the exception of the rear half



**Sample of road between Maribogo and Mafeking.**

## CAPE TOWN TO BULUWAYO—Contd.

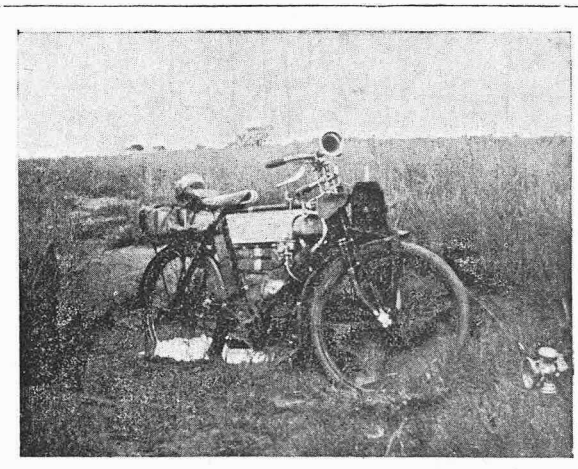
of the front guard which keeps the water off the engine when running through sluits, etc. On the afternoon of the 27th, whilst up at the station forwarding my clothing, etc., I learned that some petrol had been delivered about an hour before to a local cycle agent. I went to him at once,



**Bush Veld.**

and succeeded in buying ten gallons, which I emptied into my special drum, my tank being full. It was fortunate for me I got hold of this, as my own petrol was a fortnight on its way from Kimberley. Being tired of Mafeking, I set off for Ramatlabama, 16 miles away, about 5 p.m., having heard that there was a small hotel there. I reached this place after an hour's run, and found there was only the Police Camp to stop at. But luckily I found an old comrade amongst the boys, so managed to spend a pleasant evening talking over our share in the late campaign.

After a good breakfast I once more got under way, but soon had to leave the road for the line, but the line got so bad further on that the roads were again preferable. After three hours' hard work I struck Lobatsi, where I had a



**Small Washouts: Big smash.**

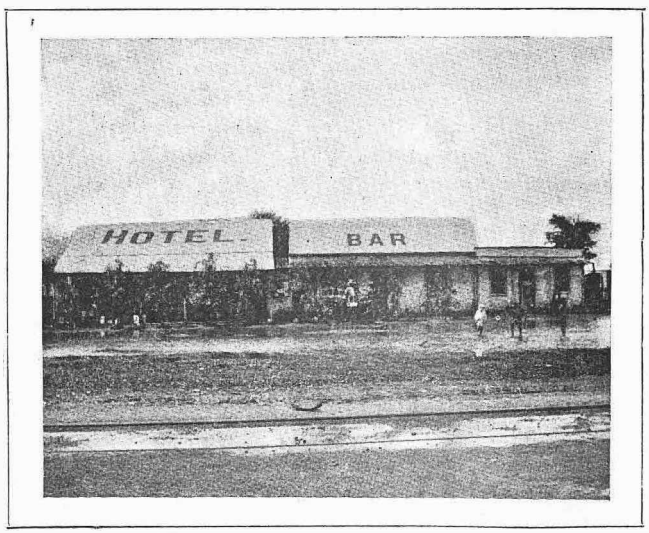
late lunch. Leaving here, I stuck to the road for twenty miles, but then had to return to the line, the roads being so wet. I could not reach Crocodile Pool before dark, so had to stay the night with the ganger at cottage No. 182. These handy little stopping places are not so close together as below Vryburg, where they are only five miles apart, but run from eight to fourteen miles, according to the country. The last day of February saw me starting in the rain, which fortunately cleared up in an hour. About here the Bush Veld starts and practically runs right to Buluwayo, the bushes being replaced by trees further up country.

I had to take to the line to pass a swamp, and whilst pushing the machine, having dismounted to pass a culvert, overbalanced, the vehicle pulling me

HEAD FIRST DOWN THE EMBANKMENT INTO A THORN BUSH.

In saving my face, my hands were scratched all over, but this was a trifle compared with my troubles after passing Crocodile Pool, where I found the roads hard and stony. When riding at full speed to get through heavy sand near Gaberones, my motor came over whilst trying to avoid a tree, broke off my left pedal, and quite lamed me for a time, as I fell on the handlebar. However, my trouble got me an unexpected treat, for three miles further on I came to Mr. Ellenberger's house, Mr. E. being the Assistant Commissioner at Gaberones.

The lady of the house, seeing I looked far from well, offered me wine and grapes instead of the water asked for, so with a two hours' rest I soon picked up again. The roads here were so deep in sand that I decided to make for the line again, three miles away. At Gaberones siding I found an hotel with a genial host, who entertained me to the best he had, and would not take any recompense. Here I had two




**Palapye Road Hotel; flooded.**

hours' sleep, which nearly put me right; at any rate, I was fit to travel. I had some fun here by giving natives electric shocks. (It is worthy of note that from here my Humber took me right through to Buluwayo without pedal assistance; in fact, a few days later I took the pedal chain off and put it with my goods on rail.) During the afternoon, I had no better luck, for without any warning I ran into a culvert which was only a yard wide; consequently, I did not see it till too late. Fortunately, I flew over to the other side, the motor going down. After a hard struggle, I managed to get it out, fully expecting to find the front forks broken, but, marvellous to relate, nothing was the worse. I could not get a spark, and finally located the trouble to a fused trembler. This, I think, is a very rare occurrence, and I attribute it to an extra strong current caused by the shock. However, a smooth file soon put things right. After passing several more culverts, I reached Mochudi. To get over culverts one has to balance the machine on the rail and step carefully over the sleepers.

Leaving my machine at the station, I went round to the hotel and sought the landlord. When I asked for a room he looked me up and down and exclaimed, "On the Wallaby, eh?" My reply was, "No; on the motor." I was not sur-

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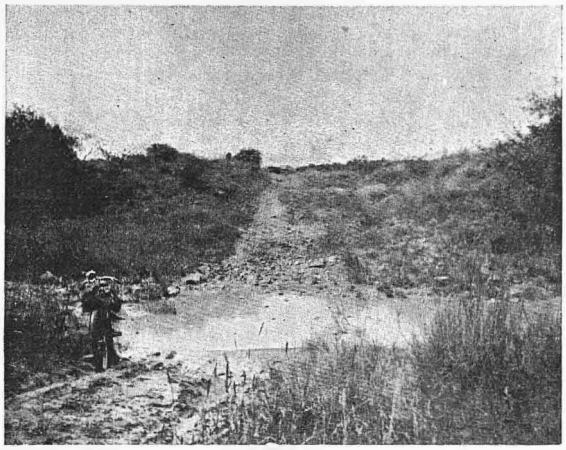
## CAPE TOWN TO BULUWAYO—Contd.

prised at being taken for a tramp, as my clothes were torn and dirty, while one boot was too far gone for repairs, owing to the rain and sharp stones. Before dinner I filled up with petrol from the station, and then had the pleasure of seeing eight of the most astonished natives I ever came across. The landlord told the boys to help the "Steamer Bas," so I got them to join hands, one end holding the handlebar and the other a spanner on the sparking plug. When I switched the current on they gave a yell, and ran as if possessed, none stopping till they were at least 50 yards away. The next morning when I was oiling up, I chanced to look over my shoulder, and my glance fell on one of the boys, who was watching me from a safe distance. Whether he thought my eyes could give him a shock I do not know, but he fell backwards into a bush in his hurry to get away. It will be a long time, I am afraid, before the natives will cease to connect electricity with the evil one.

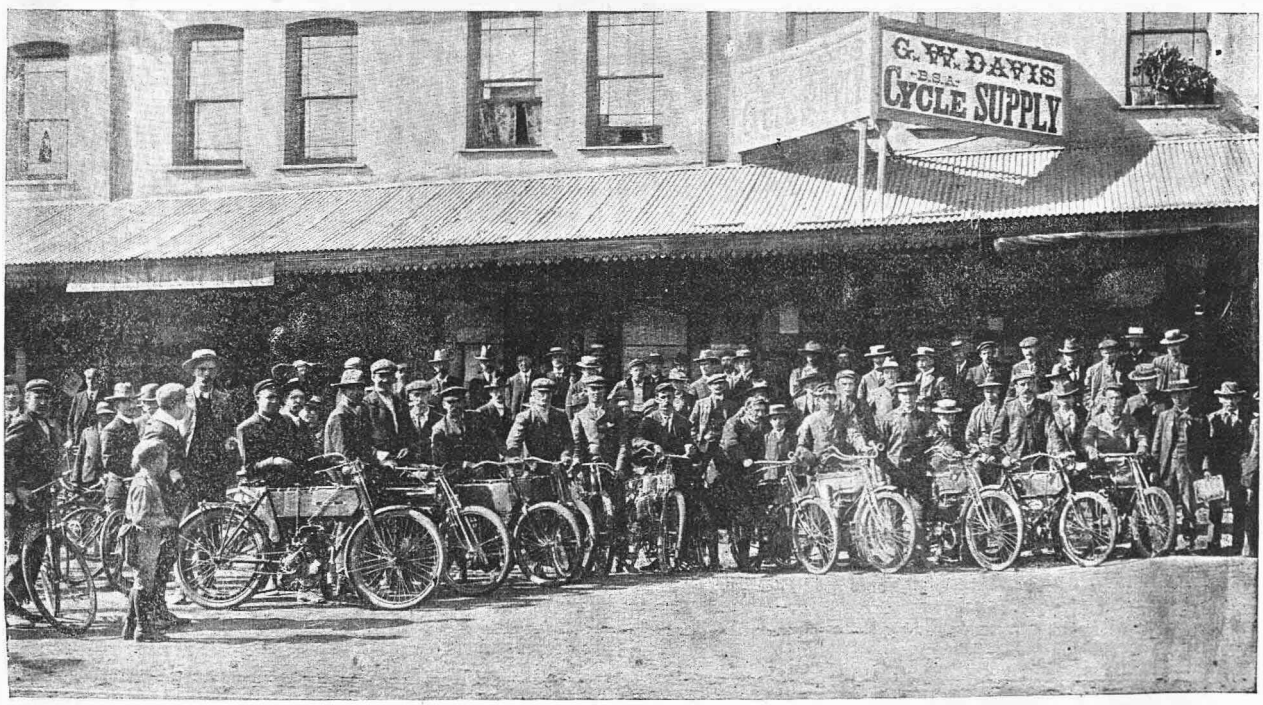


**Drift; two miles from Crocodile Pools.**

With a new pair of boots (of a sort) I made a fresh start. Lunch time saw me feeding with the station-master at Artesia, where I left about 3 p.m. to cross what is considered the worst stretch of sand in the Kalahari Desert. Finally I landed at Shoshong Road, which is merely a telegraph office, and was made very comfortable by the station-master and his assistant.

I only just landed here in time, as a heavy storm burst, lasting right into the night. On the 2nd of March I started for Mahalapye, where I landed about 3.30, after covering some of the worst stretches of sand it was my lot to come across; in fact, I had to push several miles. My first care was for my new boots, which had both heels coming off. Fortunately, I managed to borrow a last, sprigs, and hammer, so soon put them right. During the evening it started to rain again, continuing till 3.15 the next afternoon. However, I made another start, and managed to run as far as Mokoro, where I was kindly put up by the ganger at cottage 204. March 4th opened with pouring rain, but hearing Palapye Road Hotel well spoken of, I determined to get there somehow or other. On arriving at Palapye, I was disappointed in finding breakfast all off, so had to wait till lunch. The rain continued nearly all day, so I had to be content with listening to hunting stories, told by men staying in the hotel, one of whom had not seen civilisation for eight years till the previous day. He may be seen holding the motor, in front of the hotel, which, owing to the flood, looks as if it stood on an island. Palapye Road boasts of several stores, it being the chief point on the line, connecting with Khama's Country. About this district lions are occasionally encountered, and four were seen at Nakoro Kop, about 20 miles lower down the line, the day before I passed. Next morning, after a good breakfast, I filled up with petrol from the station, and again mounted, running as far as cottage 215.

(*To be concluded.*)



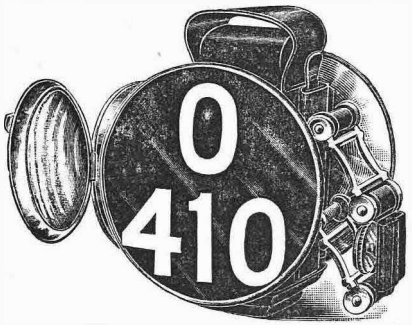

**Mr. Henry E. Bennett, in his interesting article "Capetown to Buluwayo on a Chain-driven Motor-Bicycle," has referred many times to the bad roads which are prevalent in South Africa. The above group of Transvaal motorcyclists, however, show that, despite this undoubted drawback, the lightest form of automobile is beginning to find favour amongst the Colonists. Several well-known makes of machines are easily recognisable in the picture.**

# INVENTIONS

THE LATEST IMPROVEMENTS IN MOTORS, MOTORCYCLES, MOTOR CARS & ACCESSORIES.

### A New Lamp.

A really admirable lamp has just been placed upon the market by Messrs. G. H. W. Davis and Co., of Birmingham—a very




old-established firm of lamp manufacturers. The great feature of it is its porcelain sides, which are covered externally with thin sheets of black enamelled metal plates—the numbers and letters being stamped out stencil fashion. By this method the light pierces the semi-transparent procelain where the letters and numbers are cut out, thus making the identification marks extremely clear at night time. Another feature of the lamp is that the burner is placed at an angle of 45 degrees from, and not parallel to, the reflector, the makers claiming greater light. This method throws the rays well to the sides, besides giving a brilliant head-light. The lamp is beautifully finished, and a member of our staff who is using one, speaks in the terms of the highest praise regarding it. We may add that the perforated number plates are kept in their place by steel rings, which are easily removed. Besides being neatly designed the lamp is exceedingly strongly made and well able to withstand all road shocks—a very desirable quality in motor lamps.

### An Automatic Starter for Cars.

The Rockaway Automobile Co., of Rockaway, United States, have introduced a starting arrangement for petrol-driven cars. There are two patterns, one acting on the principle of a coiled spring, and the other consisting of a dynamo-motor and small storage battery. The battery is kept fully charged whilst the car is running, and as soon as these are fully charged an automatic clutch releases the dynamo from engagement. To start the engine it is only necessary to press a switch, which causes the current from the accumulators to flow into the dynamo; this runs at a high speed as a motor, and being geared by a chain to the engine starts it up. The battery also serves the purpose of supplying the lights of the car, and also to work the sparking apparatus. The spring starter is kept automatically rewound by the engine, and when fully wound it is also automatically disengaged. It can remain wound up for any length of time, and is at once ready to start the engine. It is made in two sizes for large and small cars.

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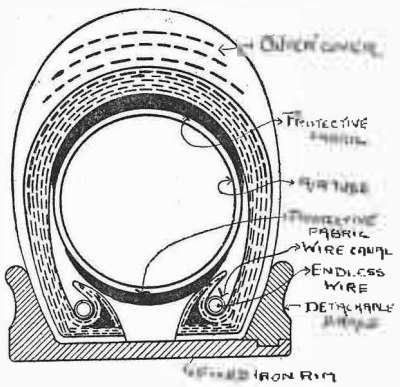
### A New Terminal Clip.

Messrs Guy and McIver, 49, St. John Street, Liverpool, have lately put on the market a new terminal clip. A copper clip grips the insulation, and the bare wire is twisted under the brass screw, which is then screwed up tight. A groove under the screw head holds the strands of wire together These terminals are made for high and low tension wires, and are supplied by the makers.

### A German Tyre.

We give a diagram of a tyre made by the Mitteldeutsche Gummiwarenfabrik Louis Peter for their detachable rims. This tyre is guaranteed not to fall out of the rim on becoming deflated, but to lay itself on it, so that (ceteris paribus) there is no possible danger of the car upsetting. As can be seen, the tyre is of the wired on type, and it has the advantage of being easily detachable. The thickness of the outer rubber coupled with a strong protective fabric should make it stand well




against puncture fiends. Although somewhat on the heavy side, we hear that the tyre is both resilient and speedy.

### A New Lubricant for Motor Chains.

"Cinogene" is the name of a new lubricant just introduced by Messrs. Price's Patent Candle Co., Belmont Works, Battersea, London It has been specially prepared for use with motor chains, and is of such a nature that it cannot be squeezed out of the links by the driving pressure—a drawback with many chain lubricants. It is of a hard, wax-like consistency, and has to be melted by application of heat and the chain soaked in it. It is equally applicable to motorcycle or motor car chains. It does not gather dust like an oily lubricant does—another important advantage

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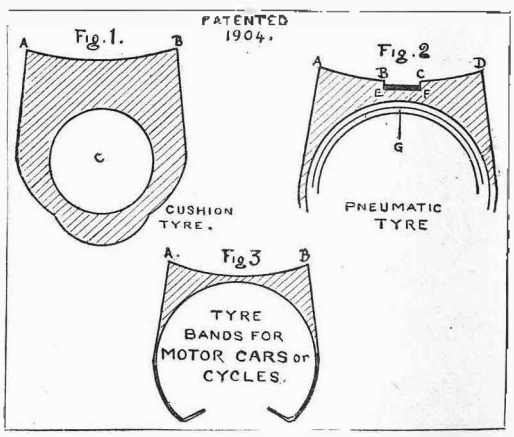
Readers who desire information regarding Patents may obtain same on sending details addressed as follows:—"'Patents,' care of 'The Motor,' Rosebery Avenue, London, E.C."

### Hot-weather Hats.

In the sort of weather which we are getting just now even the lightest of motor caps seems heavy, and if it should fit closely or be of a closely woven material it is apt to induce a headache. Speaking from experience, we can thoroughly recommend the straw caps which are to be obtained of Dunhill's, Gamage's, and other places, as being light, airy and comfortable. Besides the smart naval style of cap for gentlemen's wear, hats in straw can be obtained for ladies, having either a peak or a brim. These hats, associated with a veil, are undoubtedly most becoming—in fact, the motoring garb of the fair sex is nowadays quite free from any risk of being deemed ugly and ungainly, as it was but a year or two ago.

### An Anti-Puncture Non-Skidding Tyre Cover.

The following are the details of a tyre invented by A. Pearson, Southend Road, Hampstead. It is claimed that the concave surface A B or A B C D of the tyre provides a firmer grip of the road by wheels fitted with these tyres as they revolve, without causing so much suction as usual, because as the tyre revolves the centre of its periphery touches last and leaves the ground first; whilst the outer edges of its circumference are always in contact with the road, thereby preventing "skidding" or "rolling." The anti-puncture band E F, although not absolutely necessary, it is claimed not only prevents punctures, but, by the slight hollow formed by its position, assists in reducing suction, and not being in a line with the peripheral surface, obviates its interference with required resilience. The space B C E F will be semi-circular when used without the A F band in cushion, as well as other tyres. An ordinary tyre in revolution has a peripheral centre always in contact with the ground, which causes it to skid and increases the suction. These new-shaped tyres will have the ends for continuations for attachment made any required form to suit various wheels, or will be supplied as "bands" to fit over or affix to existing tyres.




**The Pearson Non-Skidding Tyre Cover.**

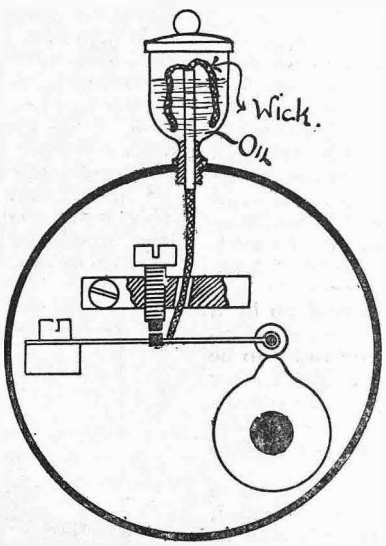
# MAGNETO'S POINT OF VIEW

### *Contact Spark Troubles.*

"How can I obviate heavy sparking and burning of platinums at the make and break or coil trembler?" This seems to be a question more often asked now than formerly. In the first place, what is the cause of heavy sparking? There are two main reasons; the first and the most usual is that the coil itself has not been built up in such a way that the self-induction spark at contact is minimised; secondly, an excessively strong current is sent through the primary of the coil. Only by very careful and individual attention in the manufacture of each coil is it possible to eliminate the self-induction spark. Many of the French and Belgian coils are made by the gross, and exactly the same sized condenser is fitted to each. In fact, everything about the coil is governed by the principle of making it at the rock-bottom factory cost to get the maximum profit out of the manufacture. This is, of course, a sound business principle, but, unfortunately, the user gets no satisfaction. To look at from the exterior, one coil is as good as another, and it is only by actual trial that the purchaser can differentiate a good from a bad one. It the coil was built with a view of having as little sparking as possible it would have its condenser built up sheet by sheet till the spark disappeared, but cheap coils cannot be made this way. I consider that a high-priced coil pays in the end if the high price means high quality. If the fault is inherent in the coil itself, no tinkering with it will effect any good.

REDUCE THE CURRENT.

If the coil has a well-known maker's name on it, but nevertheless sparks badly, it is quite possible to very sensibly diminish the trouble by inserting a small amount of resistance in the circuit. By a resistance is meant a length of wire of some metal that will check the rush of current. Such a metal is German silver. It is possible to obtain from any large dealer in electrical supplies a yard of this wire for a few pence. A suitable gauge is 18s. or 20s., and the wire must be insulated with cotton. All that it is necessary to do is to make a spiral of the wire (wrap it closely round a penholder), clean the ends, and connect it, say, between one terminal of the accumulator and the wire that formerly joined up to it. It is possible that the spark at the plug may have become so weak as not to fire the charge; if so, all that has to be done is to shorten the resistance wire an inch or two at a time till a sufficiently strong spark is obtained. The points of the plug might be brought a shade closer, perhaps, a gap of one millimetre being ample.




**Method of Automatically Oiling Platinum Contacts.**

### *Genuine v. Imitation Platinum.*

I must call attention to the fact that the contacts must be genuine platinum: Silver, German silver, or platinum alloy are no use whatever, as they burn away in a very short time. There are reliable firms who deal in platinum, and for 2s. 6d. enough can be obtained to last several thousands of miles, and it is possible with very little mechanical ability to re-platinise a contact screw or spring. It is worth remembering that, provided the contact breaker has a well-fitting cover to keep out grit, oiling the spring and contacts has a really good effect. There is no doubt whatever on this point. If one could have the make and break actually submerged in oil all the time, the strongest possible spark would be produced at the plug, and the break spark at the platinums would disappear. To get as near as possible to this ideal, I arranged a small oil cup on the cover of my contact breaker. A small cotton wick comes from this, and passes through a hole in the contact screw block, and just hangs in front of the platinum tips. This ensures a small blob of oil on the platinums. From some careful experiments I made with clean, dry platinums and clean and oiled platinums, I found the spark in the latter instance was a full $\frac{1}{8}$th longer. The method is illustrated.

### *Tricar Two-speed Gears.*

It is becoming generally recognised that if the medium-powered tri-car is to prove a successful all-round vehicle, capable of tackling any hill on a rideable road in the kingdom, it must have two speeds. When the tri-car form of vehicle was first introduced, engine powers of $2\frac{1}{2}$ and $2\frac{3}{4}$ were considered ample—for a time—till it became evident that pedals were very little real service in helping the machine up a severe hill; because when help was wanted it was very badly wanted indeed. Pedals are very little use, simply because the weight to be moved is so great. Most of the standard makers have directed their attention to producing a gear to suit their particular machines, and it will be fairly safe to prophesy that all the best tri-cars in 1905 will have a two-speed gear fitted. I do not see that there is any necessity to exceed $3\frac{1}{2}$ h.p. for all-round work. The importance of low working expenses as compared with a light car must not be lost sight of; and if 4 and 5 h.p. engines are going to be fitted, this advantage will to a large extent be lost. The complication of a two-speed gear is all that is really wanted. A well-designed fan is so very simple that it cannot be called a complex fitting, although an additional one. Makers will do well to keep in mind the fact that there must be a big range between the gears, because it will be found that, as a rule, when the low gear is wanted, it will be to surmount the crest of a long hill. Assuming a $3\frac{1}{2}$ h.p. engine to be fitted, and that it is in perfect order, it will rarely be necessary to use the low gear on a short hill, even of severe grade, as with skilful driving it can be rushed. There are occasions possibly when one might have to almost stop at the foot of a stiff hill, and then it would be necessary to put in the low gear at once. Hand-starting will be a good feature of the two-speed gear machine, as a free engine position is easily obtained in all types. The pedals doubtless will disappear altogether from this class of machine: The only use that might be found for them would be in keeping the machine moving very slowly in traffic, with the engine running free.

# A NIGHT ON DARTMOOR WITH A LIGHT CAR.

A friend of mine who has recently purchased a popular light car and had left it at Exeter for some slight alterations and repairs proposed to me that we should run up one Saturday afternoon, and bring it back to Liskeard (in Cornwall), where he lives, a distance of some 60 or 70 miles. Accordingly, at the appointed time we arrived at the garage, and shortly after 4 p.m. were "en route." A mile or two outside Exeter we mistook our road, and on applying the reverse we found that it was not acting. Consequently we returned, and, after taking out the gears, found that the pinion actuating the reverse was not lifting. This defect, however, was soon remedied, and by 7 o'clock we were started once more on our travels. Our tactics now had to be altered, as we could not reach Tor Point ferry before 9.30, at which hour the ferry boat ceases to ply. This meant that we had to take the northern route, across Dartmoor via Tavistock. The beauty of the Dartmoor scenery baffles description, and I was very disappointed to find that darkness would fall ere we reached this beautiful stretch of moorland.

We reached Totnes in due course without mishap, and here we fortified ourselves with supper. At 9.30 we were once more on our way, and another quarter of an hour found us well on amongst rugged "Tors" still tinged with crimson left by the departed sun. The night proved to be a very dark one, a few pale stars struggling through banks of heavy clouds. Nevertheless, the little car glided merrily onwards, though steering was somewhat difficult owing to the narrowness of the lanes and our lamps burning oil, their light shining but feebly on the road ahead. Presently, however, our road changed its temper and became very rough, and on clattering all at once down a gradient of about 1 in 6, we were suddenly held up by a gate leading out, as we found, on to the open moor. Evidently this was the wrong track, and the only thing to be done was to turn the car and retrace our steps. The former item was no easy matter, for the road was just wide enough to admit the car, and grassy banks were on each side. However, by dint of great manœuvring we at last managed to turn it round.

During the interval the engine had sufficiently cooled to allow us to tackle the precipice we had just descended, and our little machine did this in fine form. Arriving at the top we wended our way slowly backwards, till at last we took a more promising turn, and once more found ourselves on the high road. Our success, however, was very short-lived, and we once more found ourselves landed in a similar "blind alley," terminating in the dreaded gate on to the moor. I think we might have done better had the sign posts not been so shy, and those we did happen to come across were carefully hidden behind hedges.

Our hopes of reaching Liskeard that night were now fast diminishing, so we sat and smoked, considering the situation. Anyway the car must be turned, and this was once more successfully accomplished. But troubles never come singly, and two more manifested themselves; the water in our radiators was well-nigh exhausted, and about a gallon of petrol only remained in the tank, for we had come many miles out of our route. I should mention that it was now about 3 o'clock on Sunday morning, bitterly cold, and no habitation in sight. "Oh! for a Dartmoor rill just now" with these words on our lips we set out in search of water, armed with a headlight and an empty petrol can.

Our search was soon rewarded, and we returned with a brimming can of water. Although water was now plentiful petrol was not, and this was our only anxiety.

Tavistock was the nearest town at which we could hope to find an open shop, and that was in the dim distance! However, we had found water, and on continuing our backward career we found another useful object in the shape of a sign post. Concealed, certainly, behind a hedge, still it told us the way, which was over a brook and through (as a matter of course) a gate, but it eventually set us on the King's highway. A few miles further on we encountered herds of Dartmoor ponies grazing by the roadside in the dim morning light. Some planted themselves in front of us, while others trotted leisurely along before us, keeping down our pace and wasting our rapidly decreasing stock of petrol.

We passed Princetown as day was dawning. On each side of the road lay rows of picks and shovels, all in readiness for the convicts' Monday's toil. As the daylight was now rapidly increasing, we made good headway, and at last, "Oh, joy!" there lay Tavistock, basking in the early morning's sun, some three or four hundred feet below us. We now started our descent into the town with throttle closed for economy's sake.

At 5.30 a.m. we drew up before the closed doors of the hotel with not more than a quarter of an inch of petrol in the bottom of the tank. However, the sun was getting up, and for two hours we dozed in the car, much to the amusement of the early Tavistock bumkins. We left again at 10.30, reaching Liskeard at 12.30, none the worse for our prolonged and cold journey.

I think I may call it a record trip, 70 miles in 17½ hours. This is the first night I have spent on Dartmoor, and I trust it will be the last. The next time I hope to see its beauties by day, with a good road map in my pocket.

H. B. T. Childs.

**DOCTOR'S ORDERS.**

**DOC.: "Do you take the exercise I prescribed?"**
**PATIENT: Certainly, Doctor. I am out on my car all day, and—and" (indignantly) "I don't seem to reduce my weight an ounce!"**

The Motor
INCORPORATING Motor Cycling & Motoring

*The sale of "The Motor" exceeds that of any FOUR motor papers combined.*

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# OPINION.

## *Lax Trading Methods.*

We have had occasion more than once to refer to complaints which have reached us from Colonial readers to the effect that applications sent to British motor manufacturers for price lists and full particulars of their productions have failed to meet with any response. At any rate, if the desired information has been despatched, we are assured it has not been delivered. On the face of it, it seems hardly credible that such should be the case, but grievances such as these have been laid before us so frequently that we fear the fault cannot be laid entirely to the vagaries of the mail—either inwards or outwards. In some cases the non-delivery may be due to the fact that enquirers have neglected to give their full postal addresses, and in others it may be that carelessness on the part of the manufacturers' addressing clerks have been responsible for the miscarriage of the packages; but no matter what the cause may be, the fact remains that our readers across the sea are continually failing to have their requirements met in the particular respect referred to—and they unhesitatingly attach the blame to laxity or indifference on the part of the home manufacturers in regard to foreign enquiries. In support of this contention, many of our correspondents point out that similar requests made to American, German and other foreign motor makers invariably elicit full and prompt replies. Truly this is very significant, and without desiring to draw any invidious comparisons, we may say that it behoves every British manufacturer to see that Colonial enquiries receive the earliest and, at the same time, the best attention it is possible for them to bestow upon them. In the best interests of the trade it is necessary for them to do this, for tardiness on their part not only disgusts and creates a lastingly bad impression amongst our Colonial kinsmen, but, what is far worse, allows the foreigner to step in and secure the trade. Then there is another matter; even when Colonial orders have been definitely placed and deposits paid, extraordinary and irritating delays have often occurred before the machines have been despatched. As an example, we have only to quote from a letter which we received last week from a reader resident in Lucknow, India. He says:—"I have read with interest correspondence regarding delays and neglect on the part of English firms. I sent an order to a first-class English firm, namely, Blank and Co., for a motor-bicycle on the 2nd March, and also paid £20 down with order, and with instructions to despatch with least possible delay. It is now 14th June, and, apart from receipt for money and order, have heard no further news of it. If I had written to an American firm, who had sent me specifications, they guaranteed to despatch it within ten days of order."

This is by no means an isolated case—but only one of many. Is it a matter of surprise, therefore, that Colonists who have been treated in this way, should, despite their preference for British-made productions, and the sentiment they cherish for the Old Country, become piqued and place their business elsewhere? We think not. Generally there is no excuse in unduly delaying the execution of orders, and if a scepticism exists that the majority of foreign enquiries are born of curiosity, and not an earnest of business, the sooner this impression is removed the better it will be. Every enquiry may not lead to business, but there is always the possibility that it may, and that being so no effort on the part of the manufacturers should be lacking to secure it.

## *Accidents that are Avoidable.*

It has occurred more than once that one serious motor accident has started a sort of epidemic of them. That so experienced a driver as Beconnais should have met his death with such startling suddenness can have no bearing upon motoring for pleasure, because he was travelling on an abnormal machine, under abnormal conditions. A racing car, built for the Gordon-Bennett contest consists practically of the most powerful engine that can be attached to the lightest possible framework, and so it is not by any means unexpected that the limit of its vitality should be reached very early in its career.

In the case of the touring car there is no need for saving weight in wheels and other vital parts, weight being, fortunately, an unconsidered item so far as the user is concerned. Consequently the parts that collapse under racing strains can be left abundantly strong for touring purposes. Almost concurrently with the accident to Sir William Rattigan, Mr. Taylor, of Carshalton, was backing his car on the top of a steep hill at Rotherfield when it got out of his control, and running backwards down the hill was overturned. Every motorist, even of but the briefest experience, on hearing the details of this accident, must at once have asked, Why did the driver not drop his sprag? Only last Easter there were sensational accounts of cars running away down hill and, in a like manner, the average motorist must have wondered why the drivers had not changed down to their lowest gears. In many cases where accidents have occurred they could have been avoided had the drivers made use of the safeguards with which a car is provided. The careful driver, who considers not only his passengers, but his car, will always absolutely assure himself, before starting out or resuming a journey, that his brakes are in perfect order. On approaching a steep hill he will put his first or second gear into engagement, and then at the slightest appearance of danger, he will use his engine as a brake—one which will allow him to crawl down hill with his wheel brakes entirely in reserve. And at the least sign of a car moving backwards on a hill he will drop his sprag and ask his passengers to alight, for which there is invariably ample time. We feel convinced that the driver of a car must exercise that constant watchfulness and must be prepared to act on emergency and to remember to use the safeguards at his disposal in exactly the way that would be expected of the captain of a steamer.


***The Value of Remembering.*** A very useful quality for the average motorist is the ability to remember the many little circumstances that obtain whenever there occurs some mysterious refusal of the engine to develop power. Such things happen now and again, and, whenever one recurs, it is distinctly useful to be able to note any similarities with the previous incident, because it frequently happens that, in this way, the key to the mystery is provided. For instance, on one occasion, after the car had carried us to our distination in an entirely satisfactory way, the engine refused to restart until about twenty minutes had been spent in the operation. This entailed examination of carburetter, electical connections and plug, and generally a lot of unnecessary work, everything being found in perfect order. I noticed that some petrol was dripping from the mixing chamber, but, as the supply at the nipple looked normal, I ascribed this overflow to the repeated floodings made for the purpose of starting. However, the engine started suddenly and went as well as ever for the rest of the day, and the incident was recorded among the mysteries of motoring. Some time afterwards the very same thing happened, and it then flashed through my mind that on the previous occasion the car had been standing with her nose pointing down a decline just as it was doing on this occasion, and I observed again the dripping of petrol. Scrutinising the nipple I saw that the spirit was welling over. A reasonable solution of the mystery thus presented itself. The car sloping downwards at the fore end, and the float chamber of the carburetter being behind the mixing chamber, the result was naturally a slight alteration in the levels, resulting in a mixture excessively rich in petrol. By opening the additional air supply I got the engine to start. The other day, when it was excessively hot, I left the car outside in the roadway for an hour or two instead of running it into the motor house. As there is a slight dip in the road I anticipated, the moment I took hold of the handle, a refusal to start, and I was not disappointed. After half a dozen fruitless attempts, (even the amount of air admitted through the additional supply orifice being insufficient), I unscrewed the cap of the mixing chamber and with an enormous volume of air (speaking comparatively) the engine started: the cap was slipped on at once and the engine went ahead all right. I think, after these three incidents, that I shall know enough in future to be wary of tilting the forward end of the car downwards unless I want more starting troubles. As a rule my engine will start at the first few turns of the handle, and I always think that nothing is more undignified than a lengthy struggle to start a refractory engine.

***Cooling Troubles.*** Under a sweltering sun, with a cloudless sky of the Italian type over our heads and with little or no breeze, such as have been our climatic conditions just recently, it has been a matter of wonder to me that we have not had more letters from readers detailing engine-cooling troubles. The number of such letters has noticeably increased, and reading them through and noting the general simplicity that characterises the troubles, one would not unnaturally have expected more of them. Overheating should, obviously, be an exceedingly rare occurrence unless the engine be run for a long time with the car standing still or it be run with but a small quantity of water circulating in the cooling system. Overheating shows itself in a loss of power (due to the attenuated nature of the charge which expands immediately it reaches the cylinder), constant knocking and ignition from overheated plug points when current is cut off. The only way to prevent it, so far as mechanical defects are concerned, is to ensure that the whole system—tanks, water jacket to engine, radiator pump and pipes—is absolutely clean and clear from scale and sediment and that the pump is working constantly and regularly. I notice that, however frequently the water may be renewed, it becomes discoloured practically at once, the discolouration being that of rust, and this despite the fact that, except the engine jacket and tank, the whole of the system is of non-rusting materials such as brass or copper. Since I discovered that the tank has a penchant for collecting dirt and filth I have taken to constantly changing the water. I disconnect between the tank and pump and then fix the end of the hose to the pipe leading to the latter. I then start up the engine, turn on the water from the main and let the pump force clean water right through the whole system, the outlet being at the tank whence it pours out and away down to the gutter. Then I connect up and refill. The best practice, of course, is to use rain water for refilling, but that is a refinement I have not yet adopted.

***How to Avoid Them.*** My indicating tap, of which I wrote a few weeks ago, has told me one thing, and that is that when the engine is running very slowly the water does not come shooting out when the tap is opened. When I start up the engine, naturally I retard the ignition and throttle the gases until I am ready to let the clutch in, but if I want to assure myself that the water is circulating properly, I have to accelerate the engine to almost normal running speed before the water will come shooting out of the tap. This is rather an illuminating fact, and I retail it because I see in it the possible explanation of the trouble mentioned by Commander Martin in the letter which appears in this week's O.P.V. It would be obvious, if the pump on Commander Martin's car were not running at a sufficient speed to be operative (and we can quite understand why this should be when we recollect that the pumps used for circulating the water in a car utilise centrifrugal force, which is only created by speed), the water in the engine jacket would very quickly boil, the steam escaping into the tank and thence getting out through the vent. It would also be obvious that when the car got running normal conditions would prevail, because the pump would be revolving at a sufficient speed to become operative. Supposing that the water were circulating freely through the system, the fact of the car standing still with no relays of cool air to the radiators would also quickly tend to the overheating of the water.

The condition of the radiating surfaces is worthy of some attention. Many radiators will be seen either caked with mud and dirt or painted with a paint that may look nice but is wholly unsuited to the requirements. Those who have delved into the bye-paths of knowledge which photography opens up will know that the best heat and light absorber is a "dead black." What is required on the flanged surfaces of the radiator and on the engine jacket is something which will readily absorb the heat from the metal and radiate it into space. For this purpose lampblack is unequalled and the best way to apply it is to mix it into cream with spirits of turpentine, a very small quantity of gold size being added. If the various surfaces that can usefully be treated be painted with this, it will be found that the water will be much more effectively cooled. I have so treated the radiator, the engine jacket and some of the copper connecting pipes of my car, with, I think, good results.

C.I.

# NEWS

No. 1 of "The Motor Boat" had a splendid reception. The circulation amounted to 20,000 copies.

The German Emperor has accepted an honorary membership of the German Automobile Club.

No. 2 of "The Motor Boat," which appears on Thursday, contains many interesting and attractive features for which space could not be found in No. 1.

It is stated that the German manufacturers will soon be in a position to produce peat alcohol at a price considerably below that of petrol. The peat will be obtained from Sweden.

"Fast driving by unskilful motorists," says a well-accredited authority, "is the cause of nine-tenths of the accidents for which the public are too ready to hold the automobile responsible."

"Cycling" issues its Summer Number on Wednesday, and it will be found to be one of the most attractive numbers ever produced. A double-page art supplement is included, and the price is one penny, as usual.

A correspondent points out that the level crossing at Uckfield, Sussex, is in a dangerous state, and should be negotiated very carefully. Perhaps the railway company will give the matter their attention.

The German Emperor has approved of an automobile plaque designed for his car at the instance of the German Automobile Club, and given instructions for it to be affixed. He has also promised to wear occasionally the G.A.C.'s cap.

The Birmingham Motor Cycle Club had a most successful "Ladies' Day" run on Saturday week last. The venue was historical Kenilworth, and about 30 took part in the event. Not the least attractive feature of the afternoon was a strawberry tea.

The Automobile Club House will be closed for a fortnight commencing from August 9th for repairs and redecoration. The "Journal" states that arrangements are made with another club for receiving members during that time and that the Motor House will remain open.

The Manchester A.C. have transferred their headquarters to the handsome Midland Hotel, which has just been opened in the Cottonopolis. Every convenience has been provided for the members. Future communications to Mr. Hoyle Smith, the hon. secretary, should therefore be addressed to the Midland Hotel.

The July number of the "International Motor Review" is full of good matter. A short sketch of Mons. Brasier, an interesting article on the brothers Renault and the development of the Renault car, and some notes on "How Carburetters are Tested" and "Motor Ignition" are among the features of the issue.

## *Coming Events.*

*July* 14 *to* 21. Ostend Automobile Meeting.
,, 23. Midland A.C. Hill Climb at Sunrising Hill; Meet of Western and Eastern Sections of Scottish A.C. at Philiphaugh, Selkirk.
,, 23 *and* 24. Ardennes Excursion to Bastogne.
,, 25. First events at Ardennes for Light Cars and Motorcycles.
,, 26. Second day of Ardennes events. Heavy Cars.
,, 26 *and* 27. Automobile Club's Reliability Trials for Motor boats.
,, 26 *to Aug.* 1. Motor week at Spa.
,, 29. British Eliminatory Trials for International Motor-boat Race.
,, 30. International Motor boat Race for British Cup.
*Aug.* 1 *to* 3. Bexhill Automobile Meeting.
,, 1 *to* 4. Motor-boat Races at Ostend.
,, 8. Motor boat Races across the Channel
,, 14 *to* 19 Motor-boat Races in France: Paris to the sea.
,, 21. Gaston-Menier Cup.
,, 15 *to* 20. Auto-Cycle Club's Reliability Trials for Motorcycles.
,, 21. Motor Race Meet at World's Fair, St. Louis.
,, 27. Motor Cycling Club's Team Trials.
*Sept.* —. Automobile Club's Reliability Trials for Motorcars.
*Oct.* 8. Vanderbilt Cup in America.

Jenatzy's father recently died at Brussels.

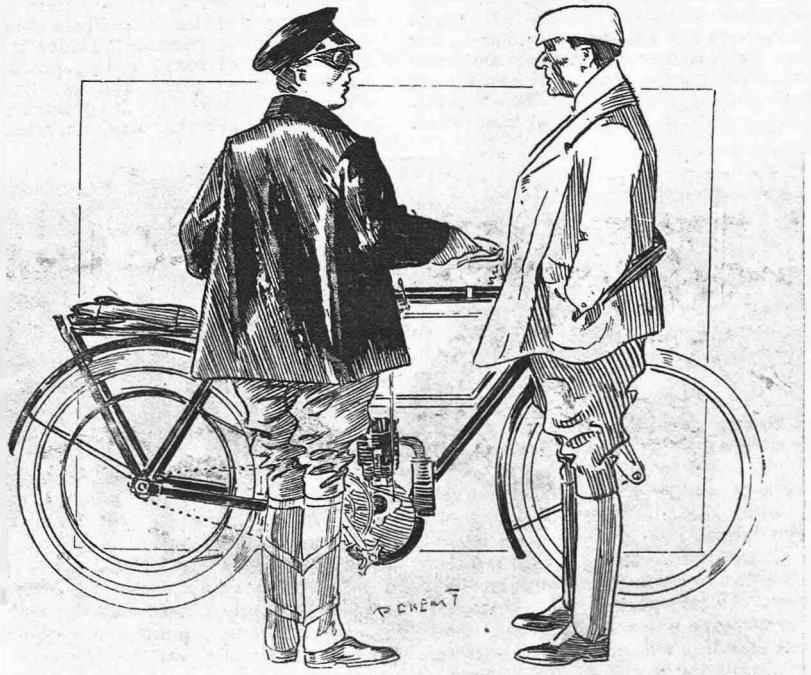
Most favourable comments on No. 1 of "The Motor Boat" have appeared in the Press generally, and in the river and yachting journals in particular.

The mechanician of the car in which Count Zborowski met his death in the spring of last year has commenced an action against the Count's widow for £4,000 for personal damages.

We learn that Mr. F. F. Wellington has been appointed manager of the British Automobile Commercial Syndicate, Ltd., of 97 and 98, Long Acre, London, W.C. Mr. D. M. Weigel retains his position on the Board as usual.

The London motorist, Mr. Thos. N. W. Holmes, who was unlucky enough to run into the Ravensthorpe Band while it was parading the streets at Dewsbury, knocking down seven musicians and injuring four, has been mulcted in damages to the extent of £65 and costs.

The Epsom Rural District Council has tarred a further stretch of the Portsmouth road. The wide place in front of the well-known "White Lion" Hotel at Cobham received its covering last week. The previous experiment with oil-compounds does not appear to have been successful, nor particularly appreciated, so we are informed, by the residents in the well-known Surrey village.



**"Given up motoring? Why—on earth?"**

**"Got on my nerves too much. You see I could get no rest at night; I suffered terribly from 'dog-mare.**

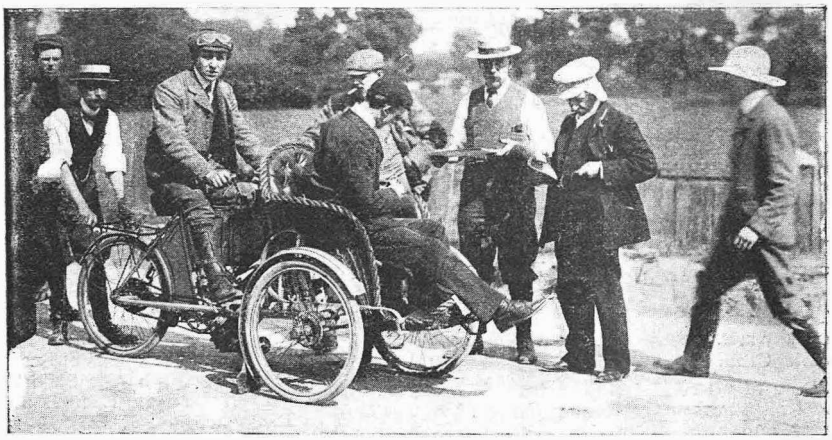
# NEWS.

## South East Essex Automobile Club.

The South-East Essex Automobile Club held a very successful meet at the charming village of Danbury, between Chelmsford and Maldon, on Sunday, July 10th. An excellent tea was served at the Griffin Inn, after which the members and their friends dispersed for a ramble on foot through the lovely scenery which abounds in this part of Essex. After spending an exceedingly pleasant afternoon, the party reassembled at the Griffin, whence a start was made for home between 8 and 9 p.m. Among those present were Mr. and Mrs. Foster (7 h.p. Daimler), Mr. and Mrs. Heritage (9 h.p. Darracq), Mr. and Mrs. W. Whittall (5 h.p. Humberette), Mr. and Miss Stoman (Humber fore-car), Messrs. Brice (3½ h.p. Brown), Reynolds (3¼ h.p. Lorquin-Coudert), Taylor (2¾ h.p. Brown) and Dives (2¾ h.p. Brown).

## The Southern Motor Club.

The reliability trial of the above club, reserved to motorcycles carrying passengers, was held on Saturday, July 9th. Owing to the postponement through bad weather the previous week, the number of starters was smaller than anticipated. Messrs. C. H. Pugh (3½ h.p. Minerva, belt drive) and W. May (3½ h.p. Minerva, belt drive), although entering for the contest, did not start. The others started in the following order:—Messrs. C. E. Bygrave (3 h.p. F.N., chain drive), C. B. Ward (4 h.p. Riley, water cooled, belt driven), W. Rathbone (3½ h.p. water-cooled motorcycle and trailer, belt drive), H. Jones (4 h.p. Excelsior, chain drive), B. Pattison (3½ h.p. Phœnix, two speeds, chain drive), C. Pattison (3½ h.p. Phœnix, two speeds, chain drive). The trophy, a handsome silver cup, was won by C. Pattison, his running being remarkably regular. The second prize was secured by C. B. Ward. B. Pattison also made a non-stop run, but was not placed owing to the time limit. The arrangements were well carried out under the direction of Mr. Allen Vickers, N.C.U., who acted as official timekeeper.



**H. C. Pattison about to start in the Southern Motor Club's Reliability Trials. His brother, C. Pattison, the ultimate winner, is seen on the right, walking into the picture.**

## Heavy Damages.

Dr. Gerald Dundas Edwards, of London, has been convicted in £250 damages as the result of collision with a Herefordshire farmer who was riding a pony near Ross. From a perusal of the Assize Court report of the case, it would seem that the defendant was guilty of that sort of reckless use of the roads which all right-minded motorists so greatly deplore, and which works such incalculable mischief to the industry and the sport; but as there was the usual amount of "cross-swearing," it is difficult to apportion the blame accurately.

## A Werner Experience.

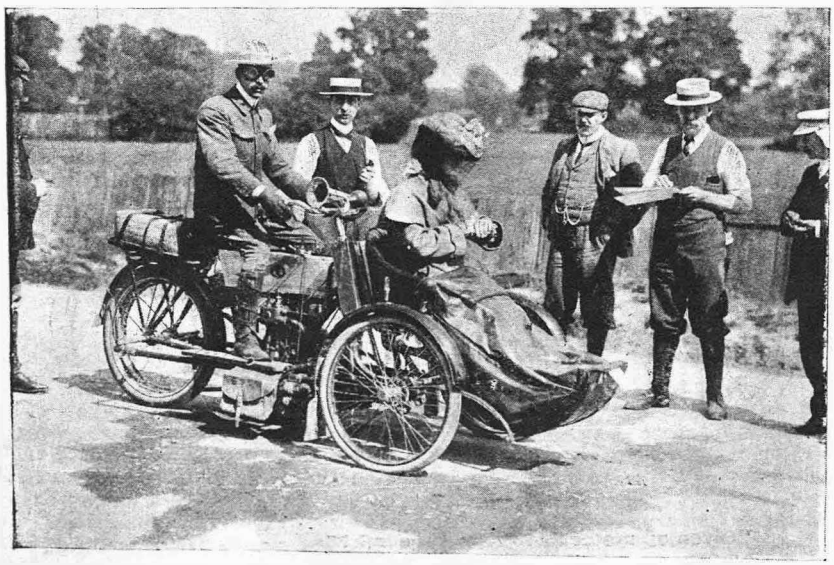
Werner Motors, Ltd., have received a most interesting letter from Mr. F. L. Watkins, Smaldeel, Orange River Colony, South Africa. He states that he bought a 2h.p. Werner at Bloemfontein about a year ago, and that, notwithstanding the fact that he has constantly ridden it over the roughest of roads, it has, practically speaking, never given him any trouble. He says: "I have only been stuck once, and that was in a thunderstorm, when my bicycle was struck by lightning, fusing the wires, and also spoiling the accumulator for good; but I luckily came off without much harm, and walked home, a distance of about nine miles, leaving the machine on the veldt, as we have no railways up this way, excepting the main line from the coast to Johannesburg."

## Leicester A.C.

On Saturday week the members of the Leicester Automobile Club were entertained at the Hall Hotel, Ashbourne, to an "At Home," by their president, Mr. E. G. Mawbey, M.Inst.C.E. The function proved most enjoyable in every respect, and a hearty vote of thanks was passed to Mr. Mawbey for his generous hospitality.

## Alleged Obstruction at a Hill-Climbing Competition.

Mr. J. R. Bedford, hon. sec. of the Birmingham Motor Cycle Club, who was the victim of a summons as reported last week, in connection with the recent hill climb of that organisation, gives us some information which places the police procedure in a rather unfavourable light. The nature of Mr. Bedford's alleged offence was obstruction of the highway. Mr. Bedford states that from the commencement of the competition on the afternoon of Saturday, June 25th, a policeman witnessed the proceedings, entered into genial conversation with the competitors, and formed one of a group which was photographed during the day. At the instigation of an individual supposed to be a local magistrate the constable subsequently took proceedings for obstruction. Mr. Bedford states that the constable said that he saw nothing in the competition to break the law. No obstruction was caused, and no complaint made by the public. At the police-court proceedings Mr. Bedford conducted his own case, and produced witnesses in favour of the statements indicated above. Two alleged witnesses for the prosecution failed to appear. In Mr. Bedford's opinion, the Bench were annoyed that Hagley Hill (which, as the Chairman observed, "runs past some of the best houses in the village") was chosen for the trial; and they seem to have afforded one more example of the deplorable tendency of the rural J.P. to allow personal feeling to over-ride judicial calm.



**C. B. Ward, who came in second in the Southern Motor Club's Passenger Trial.**

# NEWS.

### Where are the Police?

The Recorder of Dublin has stated that so soon as a case is brought before him in which it is proved that a motorcyclist has caused injury to a child and then run away, he will impose a sentence of from six to twelve months' imprisonment with hard labour. Hear, hear! And might we suggest to the Recorder and to others in authority that the police should devote *some* of their time to catching this class of motor hooligan, rather than spend it all in attempting to establish problematical and unimportant infringements of the speed limit. The blackguard who rides roughshod over the limbs and lives of others, and runs away whenever he can, is far too wide awake to run into a police speed limit trap.

### Indentification and Identification Plates.

A curious running-down case has just been heard in Dublin before the Recorder. A young motorcyclist was indicted for causing bodily harm to a small boy by knocking him over with a motor-bicycle. Five witnesses identified the defendant as the man who was riding the machine which caused the accident. Three witnesses gave equally strong evidence in support of an alibi; and defendant was able to prove that his motor-bicycle was registered in the number IK132, whereas the number on the machine which caused the accident was IK27. The question for the jury to decide was whether the witnesses for the prosecution were mistaken in their identification, or whether there was any possibility of a fraudulent number plate having been used. They eventually acquitted the defendant, adding as a rider that in their opinion the number should be encased in or enamelled on the machine itself.

### No Culpable Negligence.

If the law of the land requires reforming in any one respect more than another it is in respect of the liability attaching to public corporations and private companies who endanger users of the highway in the course of constructing, repairing or tinkering with roads, etc. Theoretically, such bodies can be sued for damages caused by certain acts of commission, although not for acts of omission; but practically (unless the victim be a member of Parliament, or a celebrity of some other sort) the public is at the mercy of the careless contractor. As an instance of this, a Twickenham motorcyclist recently smashed up his machine on a piece of unlighted pavement which was under repair, in spite of the fact that he himself appears to have exercised all due caution and to have been carrying a powerful lamp. An action for £15 damages followed, but the judge decided that plaintiff had failed to prove negligence. Against this decision we enter no protest: for in the present state of the law a judge has to find evidence of a ridiculously disproportionate amount of negligence before convicting. But we contend that the law should be amended so that a moderate amount of negligence should render a man liable to punishment, as it does in other phases of life.

### Light Side of the News.

The Diet Committee of the Provincial Government of Lower Austria has issued decrees empowering local authorities to close any or all of their roads to motor cars. The motoring community can hardly be expected to thrive with a *low diet* of this kind.

* * *

A gentleman complains in the columns of a contemporary that since motorcars have come into being his house is absolutely unbearable. He threatens, if he can get no relief, to vacate his house as soon as possible. Why, certainly! Every man's house is his castle, but there is no law to compel him to stop inside it. Besides, this is the time of the year for vacation.

* * *

According to an exchange, the men's club of the First Church of Danbury, Conn., U.S.A., recently held an automobile party and an "ice-cream festival!" Evidently the atmosphere is as fetid in America as it is here at the present time; but "an ice-cream festival!" will hardly commend itself to the average English automobilist as a means of keeping oneself cool.

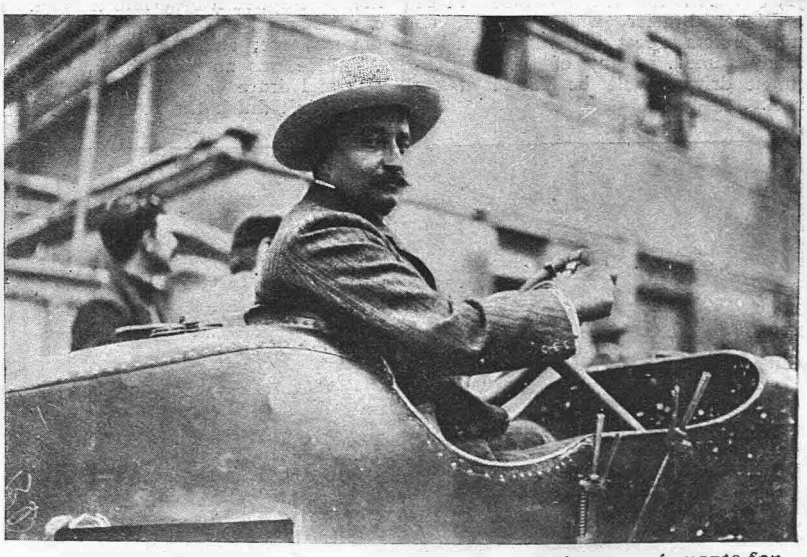
### The Mont Cenis Hill-climb Results.

The hill-climbing trials organised on the Franco-Swiss frontier took place on Sunday, July 10th. The course was on the Susa-Mont Cenis hill. Queen Margherita and Princess Letitia were among the spectators. The Queen thus confirmed the evidence which she had already given of her interest in motoring by allowing her chauffeur, Cagno, to drive in the Gordon-Bennett. The young driver was again taking part in the trials under notice, as were Lancia and Storero, Italy's other two Gordon-Bennett competitors. The principal results were as follow:—*Heavy Racing Cars*: 1st, Lancia (Fiat), 22 mins. 24 2-5 secs.; 2nd, Florio (Panhard), 23 mins. 21 3-5 secs.; 3rd, Cagno (Fiat), 23 mins. 28 2-5 secs. *Light Racing Cars*: 1st, Ceirano (Itala), 28 mins. 52 1-5 secs.; 2nd, Bigio (Itala), 33 mins. 21 2-5 secs. *Racing Motor-Bicycles*: 1st, Tamagni (Marchand), 28 mins. 29 1-5 secs.; 2nd, Maffeis (Maffeis), 29 mins. 13 secs. *Heavy Touring Cars* (4 seats): 1st, Scacchi (Fiat), 31 mins. 23 2-5 secs. *Light Touring Cars* (2 seats): 1st, Ollion (Rochet-Schneider), 30 mins. 47 4-5 secs. *Voiturettes*: Alby (Taurilia), 1 hour 30 mins. 54 4-5 secs.

Lancia won three cups—Prince Amedée's Cup, the Berteaux Cup, and the National Cup. Scacchi won the cup given by the Town of Susa; and Tamagni won the War Minister's prize.

### Schottwein-Semmering Hill-climbing Contest.

Under the auspices of the Austrian Motor Club a motor hill climbing competition is to take place on August 21st over the 10 kilometre Schottwein-Semmering course. Competitors will be classified thus:—(1) Motorcycles of maximum weight of 50 kilos.; (2) motorcycles between 50-65 kilos.; (3) Motorcars between 250-400 kilos.; (4) motorcars between 400-650 kilos.; (5) motorcars between 650-1,000 kilos.; (6) tourist cars with complete carosserie, provided with at least four seats and carrying two persons at 70 kilos. and 140 kilos. ballast. In groups 1-5, the first receives a prize of honour, the second the great silver medal, the third the great bronze medal of the Austrian Motor Club. In group 6, five prizes of honour will be distributed. A trophy is put up for the machine making the best time; this has to be won in three successive years before becoming the property of the winner. Mr. Clarence Gray Dinsmore, who won it for the second time on September 13th, 1903, is defending. Entries from July 25th to August 10th (six p.m.), will be received at the Generalsekretariat des Oesterreichischen Automobilklubs, Wien, I. Karntnerring 10. The entrance fees for the various events are (1 and 2) 25 crowns; (3) 75 crowns; (4) 150 crowns; (5) 250 crowns; (6) 150 crowns. A large entry is expected.



**Baron de Crawhez, who is chiefly responsible for the arrangements for the forthcoming Circuit des Ardennes.**

# NEWS.

### Peterborough and District M.C.

The members of the Peterborough and District Motor Club were invited by their president, the Marquis of Exeter, to Burghley House, on Saturday afternoon, July 9th. The motorists, who reside in various parts of South Lincolnshire, several coming from the Bourne district, first assembled at the New Inn, Market Deeping, and afterwards rode on to Burghley. Although the roads were dusty the conditions could not have been more delightful for a club run. True, the heat was oppressive, but this was not felt awheel, and upon arrival at Burghley the motorists had ample opportunity of sheltering in the umbrageous recesses of the park. The members and their friends were personally welcomed by Lord Exeter, and during the afternoon they were entertained to tea. To roam about the grounds and inspect the treasures of Burghley gave much pleasure to the visitors, and they thoroughly appreciated the outing. Nearly twenty motors took part in the run, and the party numbered nearly thirty.

### The Circuit of the Belgian Ardennes.

In connection with this important road race, which takes place next week on July 25th and 26th, the Belgian Automobile Club promises considerable telegraphic facilities. The timekeepers' quarters will be adjacent to the Press tent, from which a special wire will be laid on to the station at l'Etat de Bastogne.

M. Jellineck has announced that no Mercedes car will be entered by the Company for the race. But Mr. Fletcher's 60 h.p. Mercedes will run as a private vehicle. The Panhard Company will make a big effort to retrieve their Gordon-Bennett trial failure; the same cars and motors will run, but their present radiators will be replaced with those of the Paris-Madrid type. The Panhards will have a tough task, for opposed to them there will be de Dietrichs, Darracqs, Mors, Turcat-Merys, Clements, Gobron-Brillies, Hotchkisses, Pipes, Fiats, Wolseleys, etc. A noteworthy absentee will be the Richard-Brasier, which (wisely, no doubt) prefers to rest on the laurels it has already gained. Many of the Gordon-Bennett drivers will be found at the wheel.

# AN INTERESTING INTERVIEW WITH JENATZY.

### He relates some of his experiences in the Gordon-Bennett Race.

A representative of the "Journal de Liege" has just interviewed Jenatzy, and secured the following particulars of his great fight in the Gordon-Bennett contest:—

"With the left hand Jenatzy strokes his rather short-cut beard, while the right, the thumb of which he lost in an automobile accident, rests on his knee. Jenatzy speaks composedly, but yet with that emphasis characteristic of the Belgian driver—the exceptional man to whom fear appears to be an unknown name and who is seemingly born for neck-or-nothing races of the kind. 'Thery and I covered the whole course without a stop, without a panne, without tyre troubles; this shows you well enough that both makes are good. If you look at the results of the race, you will find that the third car finished 45 minutes behind our two. Early in the race it was apparent that victory would go to Thery or myself. As far as taking in benzine was concerned, Thery had the advantage of me. I will explain to you a little more clearly. It is not possible to replenish the benzine reservoir of the Mercedes while in motion. One has first to remove the pressure in the reservoir before the benzine can be poured in. This necessitates the stopping of the car and a loss of two minutes in every control station. In spite of that, I was a second ahead of Thery in the first round. But in the very next round

I LOST PRECIOUS MINUTES

for this reason. My benzine station was in Limburg. Here I had to stop, or at least reduce speed as much as possible, before driving through this town. The Mercedes people who put my benzine can to rights believed they might render me a service by boring a big hole in its lid for the purpose of letting in air along with the benzine. My chauffeur hadn't the slightest idea of this innovation; he poured the benzine in, whereby, near the exhaust, a small quantity of the spirit ran inside. Fearing that the benzine might catch fire, he emptied it back into the can. The car, however, was already travelling at a greater pace, and I passed the control. As there was no going back, I took the risk and drove on without benzine. But I couldn't finish the round, and had to pull up between Usingen and Weilburg, which cost me twenty minutes. I had the same ill-luck in the last round. As I again slowed down to replenish my reservoir, I was told in the control that I was beaten and that Thery was two minutes ahead. I reflected an instant that to take in benzine would require five minutes. An advantage of two minutes might perhaps be made good, but seven—never. So I started off at top speed and took only a can of benzine on board in case of emergency. I had another 80 kilometres to run. Ill-luck willed that I had again to stop between Esch and Königstein to fill up my reservoir. Consequently

I LOST A LOT OF TIME.

In the first and third rounds I lost five minutes to Thery, and twenty in the second. But I declare to you positively that, in my opinion, the Mercedes cars are not to be beaten in respect either of construction or speed and regularity in running.'

"'Will you start with a Mercedes in France next year?"

"'Certainly. I hope so, at any rate.'

"Jenatzy went on with his story.

"'The excellent arrangement notwithstanding, I had to be the first to sweep the road clear. Just before Weilburg there was a sharp turn. I steered straight for it at a speed of at least 140 kilometres an hour. Of course I took the curve close on the inner side, and the spectators, who at this place were standing on the slope, evidently imagined I would drive right into them; so that in trying to get out of my way they jumped like fowls right into the road. I am still quite unable to conceive how it was possible that no accident occurred by the sudden jamming on of the brake, and that I didn't kill or injure several people.'

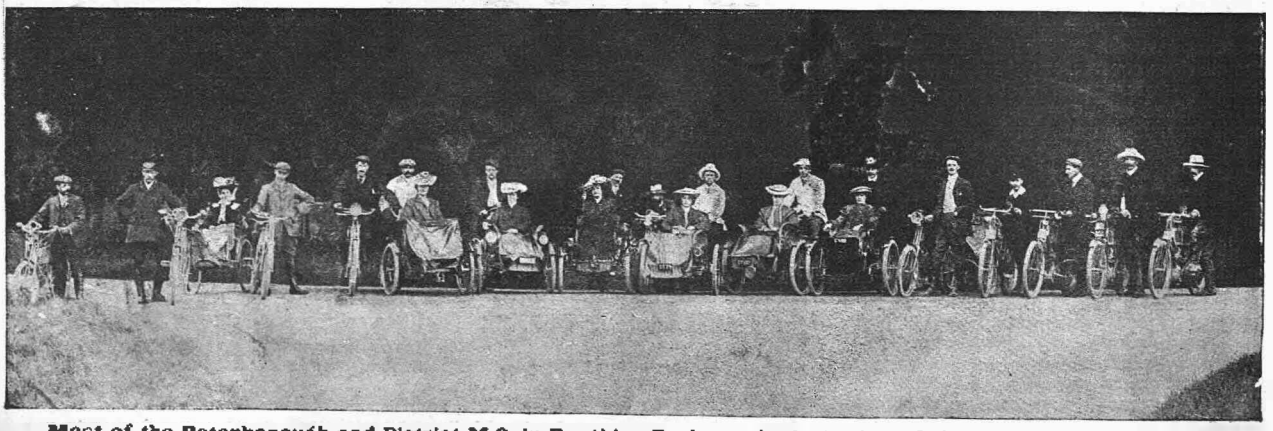
"'Naturally, you afterwards took the curves very slowly?'

"'Not at all. I knew that I had to do a round in 1 hour 23 minutes. But I lost two or three minutes at the turns where the arrangements were defective.'

"'Are you confident for next year?"

"'Yes, very, very confident.'

"The movement of the hands was very energetic; the determination to win could be seen from it.



**Meet of the Peterborough and District M.C. in Burghley Park, on the invitation of the Marquis of Exeter, the Club's President.**

# NEWS.

We understand that the Gamage issue has been more than doubly applied for.

The recent decision of the committee of the Motor Union to admit motorists to membership for the latter half of the year for half a guinea has already resulted in a large influx of applicants desirous of enjoying the benefits that accrue from membership in this, the largest body of motorists in the world. The application form, which appeared in the last issue of "THE MOTOR," should be used for the purpose.

### *Motorcycle Taxation: Another Move.*

The Auto-Cycle Club has, since its decision not to contest the case of O'Donoghue v. Moon, ever kept in view the desirability of taking some useful step towards securing the exemption of the motorcycle from the Inland Revenue carriage tax. An opportunity has arisen of approaching the Chancellor of the Exchequer in order to ask him to take into consideration the desirability of introducing into the Finance Bill now before Parliament a clause securing this exemption. A prominent Member of Parliament has promised the Club to place the matter upon the notice paper of the House of Commons.

### *The Circuit des Ardennes.*

A certain difficulty has arisen in connection with this race by reason of the regulation limiting the participation of each competing motorcar firm to four machines. Amongst the first entries received were two by private individuals, who intended to drive their cars, which happened to be both of the well-known makers Panhard-Levassor: thus it appeared that the firm would only have the right to nominate, officially, two cars to represent them. After fully discussing the matter, it has been resolved that consideration should be shown to the makers, and that they only should have the right to nominate their cars and drivers, a decision which will meet with general satisfaction, especially when the enormous expenses incurred by competing firms are borne in mind.

### *The Rector of Barnet Appeals to Motorists.*

The Rector of Barnet writes us as follows:—Your readers are well acquainted with the unfortunately narrow road passing High Barnet Parish Church. The authorities of this church are fully sensible of the fact that many motorists and cyclists restrain their pace, their horns, and their bells in passing. There are, however, some who forget the distraction which an unnecessary noise is to those in the church during the hours of Divine service. May I, through your columns, plead for their courtesy and consideration, and request them to pass as quietly as possible? We are sure our readers who may have occasion to pass Barnet Church during the hours of divine service will accede to this reasonable request.

# *A GREAT SCHEME.*

## *"The Motor Boat" engages the Turbine steamer, "The Queen," for the cross-Channel Motor Boat Races on August 8th.*

"The Motor Boat" inaugurated its initial appearance with a special and striking announcement. The magnificent turbine steamer, "The Queen," has been specially engaged by the proprietors of "The Motor Boat" for the cross-Channel motor boat race on August 8th. A number of representatives of leading newspapers will be offered hospitality and facilities for reporting and illustrating the greatest motor boat race of the year. It will be possible for messages to be despatched by means of Marconi wireless telegraphy during the progress of the race, and cinematograph pictures will be taken from "The Queen." Others interested in the motor and motor boat industry will be the guests of the proprietors of "THE MOTOR" and "The Motor Boat," besides which the staff of our own journals will use this means of reporting and illustrating the race. There will still be room, however, for hundreds of others, and the proprietors propose to offer the unique facilities afforded of viewing the great event to readers who apply early for tickets. The actual time of starting from London is not definitely fixed, but will probably be 9 or 9.30 a.m., when a special train will leave Victoria with "The Motor Boat" party for Dover. There "The Queen" will be in readiness to convey the party across to Calais in time to see the competing motor boats start. She will then follow them up to Dover. In this way the race can be seen from start to finish, which would be an impossibility on any vessel other than a fast warship. The race is expected to be a magnificent sight, as the motor boats are to be accompanied by a number of French torpedo boats and destroyers. After the race there will be a special train to bring the party from Dover to London, arriving at a convenient hour in the afternoon.

The fares will be as under:—

The double passage from Dover to Calais and back 10s. 6d. a head; first-class return by special train, 10s. od. a head.

"The Queen" and the special train are exclusively reserved for holders of "Motor Boat" tickets. As it is obvious that accommodation on "The Queen" is limited, application for tickets, with remittance, should be made at once addressed to

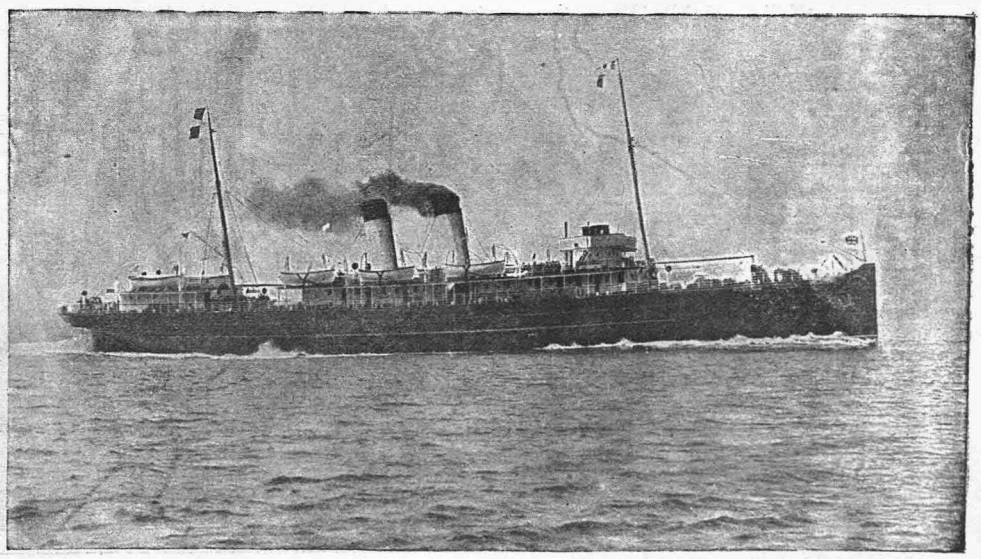
"The Motor Boat"
(Cross-Channel Race Department),
7 15, Rosebery Avenue.
London, E.C.

We can give no guarantee to late applicants that accommodation will be available, but undertake to advise at once those who cannot be accommodated; whilst if the numbers demand it we may run a second boat.

In the next issue of "THE MOTOR" we shall give some further interesting details of the scheme and the later particulars.

### *Rural Justice.*

The Duryea Company draw our attention to a piece of provincial "justice" which, if the facts have been fairly presented, goes far to explain the bad blood existing between motorist and magistrate in some parts of the country. A Duryea car travelling between Warwick and Leamington was thrown into a bank on the roadside by a dog; and simultaneously a cyclist was upset by the unavoidable cutting of the car across its track. Mr. P. Duffin, who was driving a Wolseley car some way in front, heard the commotion, and immediately returned to proffer assistance, and was subsequently of great help in taking the injured cyclist to hospital. The police, who were called up by the driver of the Duryea car, summoned the drivers of both cars. The case of the Duryea is at the time of writing *sub judice*: Mr. Duffin was fined £5 and costs for "driving to the danger of the public."



**The Turbine steamer, "The Queen," which has been specially retained by "The Motor Boat" for the cross-Channel Motor Boat Race on August 8th.**

# NEWS.

### The Ivel Agricultural Motor.

The latest important development in connection with the Ivel agricultural motor, to which we referred last week, is a patent attachment whereby the Ivel motor can haul two mowing machines. The makers inform us that they have had some wonderfully successful trials with this attachment, and at a demonstration recently they cut a strong crop of grass, 15 acres 3 roods, in 3 hours 34 minutes, the consumption of petrol for this being 6 gallons 4 pints. The amount of work, namely, 15 acres 3 roods, is about equivalent to that usually performed by two horses in a working day of 10 hours. The labour saving qualities of the Ivel agricultural motor are truly remarkable.

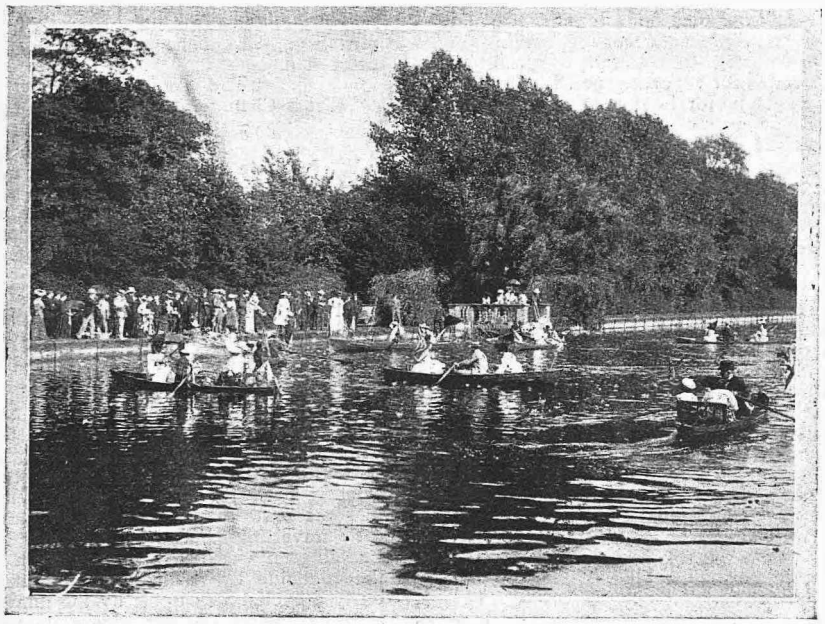
# MOTOR WATER FETE AND BATTLE OF FLOWERS.

### A Successful Lincolnshire Function.

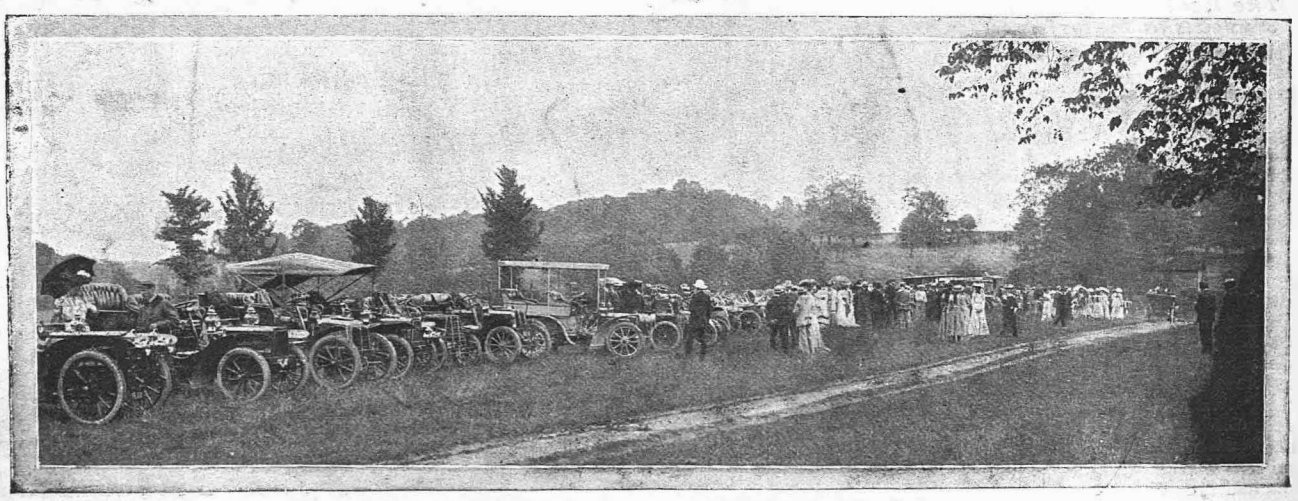
One of the largest motor club meets of the year, certainly one of the most enjoyable, was that of the Lincolnshire A.C., at Riseholme Hall, near Lincoln, on Saturday, when over sixty motors were driven over, with nearly 200 passengers. Mr. C. A. Moreing, the Unionist candidate for the Gainsborough division, had invited the members of the club, and had made very complete arrangements for their comfort and pleasure. Cars came from every part of the large county, and very fine specimens some of them were. Mr. J. Coombes had his beautiful new 16 h.p. Georges-Richard, with an English body, by Starey, of handsome design and finish. Mr. A. A. Padley drove his new two-cylinder 10 h.p. De Dion, and Mr. H. Belcher, with Mr. Adams, of Beeston, occupied a new 10-12 h.p. Humber. Mrs. Moreing's 15 h.p. Limousine Panhard (Rothschild's body) attracted attention, as did Mr. Moreing's three other cars. There were Wolseleys, De Dions, Panhards, Col. J. S. Ruston's 22 h.p. Mercedes, M.M.C.'s, Peugeots, a Star, Humberettes, Georges-Richards, a Durkopp, a 16-22 Martini, a Sunbeam, a Vauxhall, a Rose, a Bardon, Darracqs, Richardsons, Dennis, Siddeleys, and other cars, as well as motor-bicycles, a quad, and a Humber side-car. All the cars were placed in the park, and an imposing line they made, but so lengthy as to be the despair of photographers. After a splendid luncheon had been partaken of in a large marquee on the lawn, to the accompaniment of music rendered by the full military band of the Lincolnshire Volunteers, an adjournment was made to the cars, and these were inspected and discussed, many being tested by the visitors and driven round the park. Following this a move was made to the large lake in the grounds, and about twenty

GAILY DECKED BOATS

were boarded and arranged in attack formation for a battle of flowers. Blossoms were supplied to those on the shore and in the boats, and everyone abandoned themselves to the fun, which was all the merrier when the flowers were picked out of the water and pelted backwards and forwards. They acted as efficient coolers. It was a very picturesque scene, and one that will long linger in the memories of all the merry participants. After the battle tea was taken on the lawn, and a promenade concert organised, a splendid selection of music being played by the excellent band. No one appeared to be in a hurry to get away, not even those with long journeys before them. Mr. and Mrs. Moreing were heartily thanked for the very enjoyable outing they had provided, and it was generally held to be the largest, best, and most enjoyable ever held by the successful Lincolnshire Automobile Club. The fixture was favoured with glorious weather.



**Lincoln A.C. Meet. The battle of flowers on the water.**



**A few of the cars at the Lincoln A.C. meet on Saturday last.**

# NEWS.

We are informed that the plans of the third annual antomobile exhibition of the Society of Motor Manufacturers and Traders, to be held at Olympia from February 10th to 18th, 1905, have been approved by the London County Council as drawn. They show 100,000 square feet of exhibition space, of which 80,000 square feet have already been applied for.

### ext Crystal Palace Show.

With a view of stimulating progress in the perfection of the motor vehicle, the Crystal Palace Company are offering special awards for the most successful improvements exhibited at the next Crystal Palace Automobile Show on January 27th to February 4th, 1905. The following points have been suggested as worthy of special encouragement: — Designs of motorcar bodies; prevention or cure of dust; wheel manufacture; tyres—endurance, resilience, non-skidding capacity; lamps—ease of manipulation and efficiency of lighting qualities. The Secretary, Mr. F. W. Baily, Crystal Palace, Sydenham, will be glad to hear from anyone who has any suggestion to offer in this connection.

**The Ostend week. Competitors awaiting their turn to start**

William Wallace, chairman of the racing committee of the Massachusetts Automobile Club, is one of the most daring racers in America. It will be remembered that he formed one of the American Gordon-Bennett team which failed to "eventuate." Wallace's favourite car is said to be the identical 30 h.p. Renault in which poor Marcel Renault lost his life in the Paris-Madrid race of May, 1903. It now bears the grim name of "Black Death"—but Americans are proverbially "superstition-proof."

### Motorcycle Frame Litigation.

Messrs. A. W. Gamage are appealing against the late Mr. Justice Byrne's decision in the Werner Motors v. A. W. Gamage motorcycle frame case. It will be remembered that Werner Bros. sought and obtained an injunction against Gamage's for selling an alleged infringement of a motorcycle frame registered on Nov. 18th, 1901. Defendants denied infringement; alleged invalidity of the registration on the ground of want of novelty; alleged that sales made by them before the action had been made without knowledge of the registration of the design; pleaded insufficient marking of the articles by the plaintiffs; and finally alleged that as a patent had been applied for on Nov. 8th, 1901, and granted, the registration of the design was invalidated by the prior grant. Mr. Justice Byrne held that defendants had acted without knowledge in respect of certain sales and were, therefore, protected from penalties; but that having regard to subsequent sales plaintiffs were entitled to an injunction; he held that the design was novel; that the registration had not been invalidated, and that there was no evidence of insufficiency of marking. On these grounds he granted an injunction. Against this judgment defendants now appealed before Lords Justices Williams, Romer, and Cozens-Hardy. The case had not been concluded at the time of writing.

### The Tyre Bursting Experiments.

Mr. Robert Sinclair, writing with reference to the experiments in tyre bursting which are reported elsewhere, observes: "Now, granted that Mr. Edge's experiments have turned out successful, let it be remembered, first, that Mr. Edge is recognised, and rightly recognised, as one of the most expert drivers in the Kingdom, and no doubt can handle the wheel of a motor as few others are able to do, and, second, that he was keenly and continually on the alert for the tyre bursting or flying off, and no doubt every nerve and muscle in his body was in readiness for what was expected to happen. These two facts easily account for no accident occurring. But eliminate these two factors, the professional expertness of the driver, and the fact that he was riding to cause to happen what actually did happen, and what then? We have only the proof left that Mr. Edge can accomplish at enormous risk what, perhaps, no other could accomplish. I consider, therefore, that the experiment has proved nothing beyond the prowess of Mr. Edge, and what has turned out for him a bit of good luck for once."

### 3,000 Kilometres Across the Alps.

A formidable journey has been accomplished by a Martini car carrying four passengers and baggage across the most difficult and inaccessible routes of the Alps. We have briefly alluded to this trip in previous issues during its progress. The total time occupied for the enormous distance of 3,000 kilometres (roughly 2,000 miles) was 13 days, two days less than was anticipated. Amongst the most dangerous passages were those of the Galibier, the Forclaz, and the Mont Charvin, the descents of which present great difficulties and dangers of all sorts. The passengers were M. Max de Martini, Captain Deasy, M. Alphonse Steines, of the "Auto," and M. Boist, of the "Morning Post," and all four were enchanted with their adventurous journey. It is worthy of note that, during the whole of the 3,000 kilometres, not a single accident occurred either to the car, engine, or tyres. The travellers arrived on July the 16th at Paris, and proceeded to the headquarters of the Automobile Club de France, Place de la Concorde, where they were warmly congratulated by a large number of members.

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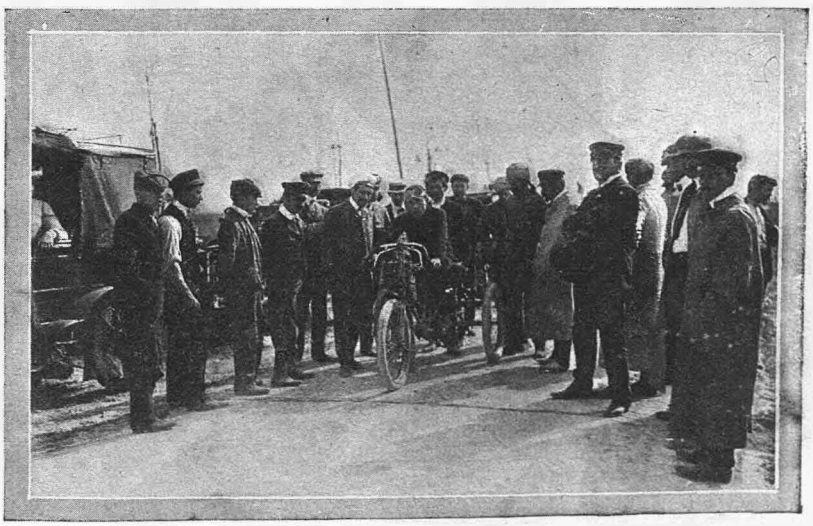
In view of the magnificent success of the Mont Cenis hill climb, the date of the meeting for 1905 has already been fixed —the 26th June.

A hill climbing trial for motor-bicycles of a somewhat unusual nature has been held in America. The length of the hill was 275 yards, the gradient varied from 1 in 12 to 1 in 8, and the surface was paved with granite blocks. A flying start of 200 yards was allowed. A. J. McCollum, on an Armac geared to 1 to 4½, won in 18⅘ secs.



**The Ostend Week. Pilette on his De Dion tricycle.**

# NEWS.

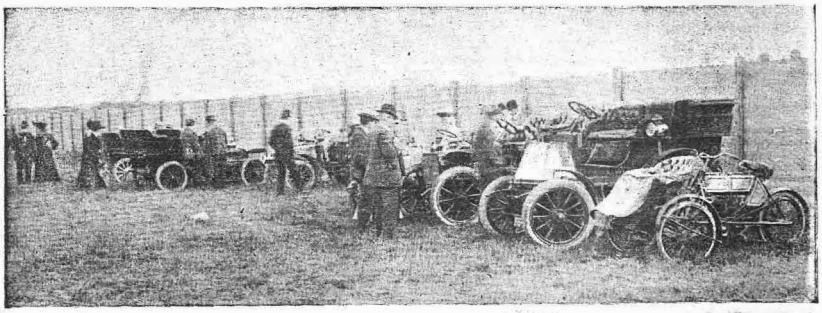
The Earl of Carnarvon has acquired a Hotchkiss car, for which the British Automobile Commercial Syndicate, Ltd., are sole agents in Great Britain.

### *The Rex Company's System of Exchange.*

The Rex Motor Manufacturing Co., Coventry, desire us to point out that their offer of £35 for a second-hand 3 h.p. Rex or any good make of motor-bicycle is conditional upon a new machine being bought. This explanation is rendered necessary in view of a recent advertisement in our Sales column which might have been taken to indicate that the Rex Co. were prepared to give £35 for any second-hand machine of good make, whether the owner purchased a new Rex or not.

### *Herefordshire A.C.*

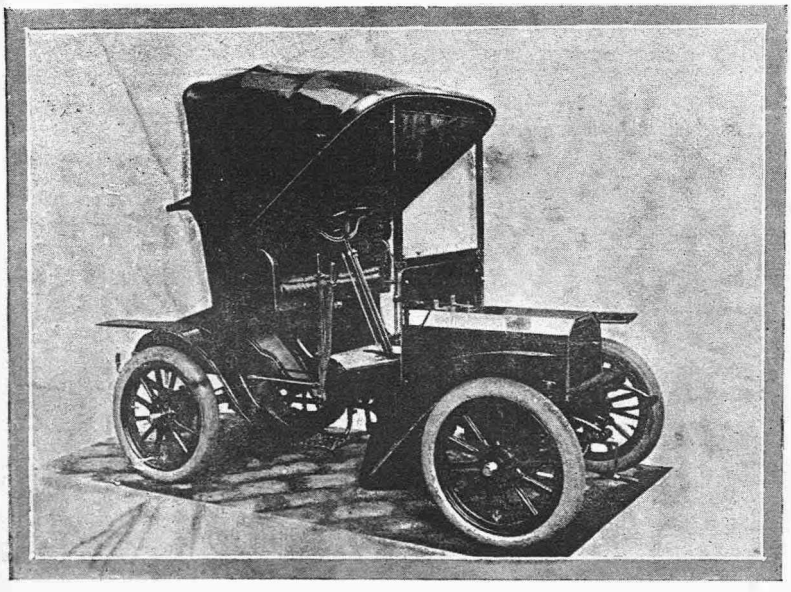
The members of the Herefordshire Automobile Club were entertained to a luncheon by the president, Mr. J. I. Hereford, at his residence, Sufton Court, on July 12th, when about 40 sat down. Unfortunately, Mrs. Hereford was indisposed, and unable to be present. Afterwards the members drove to Dunmore Hill, where the hill-climbing contests for motorcycles was settled, after several abortive attempts. The winner in each class was Mr. H. Minton, jun. The following are the times of the competitors: Class 1.—H. Minton (Minton, 75 by 80), 2 mins. 8⅘ secs.; E. Marriott (Griffon, 75 by 80), 2 mins. 39⅘ secs.; J. H. Hall (Quadrant, 76 by 76), 2 mins. 42⅖ secs.; C. L. Llewellyn, jun. (Excelsior 76 by 76), 2 mins. 49⅘ secs.; C. E. Godwin (Bat, 80 by 80), 2 mins. 59⅘ secs.; C. L. Llewellyn (Excelsior, 76 by 76), 3 mins. 10⅘ secs.; E. J. Smith (Griffon, 75 by 80), 3 mins. 20 secs. Class 2.—H. Minton (Minton, 68 by 70), 2 mins. 52⅕ secs.; A. Weale (Ariel, 68 by 70), 2 mins. 57⅘ secs.; F. Marriott (Royal Albert, 68 by 70), 3 mins. 22⅘ secs.; C. W. T. Simpson (Triumph, 68 by 70), 3 mins. 37⅕ secs.



**Automobiles at the Agricultural Show held last week by the Lincolnshire Agricultural Society at Grimsby. It is significant that all the vehicles shown are owned by agriculturists.**

### *The Enfield Co.'s New Light Car.*

After eighteen months of careful and costly experiment, the Enfield Co., Redditch, have produced a small car which will, we are convinced, considerably enhance the firm's reputation for good work. We had an opportunity of inspecting the first of the new cars when visiting the works at Redditch one day last week. At a first glance the car impresses one favourably by reason of its excellent lines. The wheel base is considerably longer than many small cars now on the market, and in this we believe that the Enfield Co. are on the right lines. It is impossible for some of the present small cars to take corners at a fair pace with any degree of safety. The lengthened wheel base has also another advantage, insomuch as it enables the weight of the car to be hung in such a way as to reduce vibration to a minimum. This we proved to our satisfaction by mounting the car. Every allowance has been made for the convenience of the passengers. There is plenty of clearance for the driver between the seat and the steering gear. The body is upholstered in the best possible manner, while the purchaser has a choice of colour and lining. Ample accommodation for luggage is provided at the back, and a seat for a juvenile may be fitted for a small additional outlay. The engine is a two cylinder 8 h.p., having three speeds and reverse, and a direct drive on the top speed. The speeds are estimated at 8, 16 and 24 miles an hour. We carefully inspected the engine while running, and could not help remarking to Mr. Albert Eadie, who showed us the car under notice, on the absence of vibration, the engine running very sweetly, partly due, of course, to the two cylinders. The wheels are 28in., fitted with 3½in. Clipper Continental, or any similar best-grade tyres. The price complete is £175, and, as we have before remarked, the car is sure to enhance the firm's reputation amongst those motorists who can appreciate really good work. The illustration appearing on this page shows one of these cars fitted with a hood to the order of a doctor, and the firm will be pleased to quote for any special feature like this in order to please individual tastes.



**The new 8 h.p. Enfield Car.**

### *Sir William Rattigan's Death.*

We are asked by Messrs. T. L. Wilson and Co., solicitors, Westminster Chambers, 5, Victoria Street, S.W., to publish the following:—

"With reference to your article on the fatal accident to the late Sir William Rattigan, we desire to give an emphatic contradiction to one statement reported to have been made by the driver of the car at the inquest. It would appear from the driver's evidence that it was due to the express instructions of the deceased's son that he said nothing to Sir William of the injuries disclosed by Messrs. Rawlings's examination of the car. The collision mentioned in the driver's evidence took place as Mr. Rattigan was being driven to Somerset House on Monday morning, and on the driver assuring Mr. Rattigan that the car had sustained no injury he was told by Mr. Rattigan not to needlessly alarm Sir William by mentioning the collision. After reaching Somerset House Mr. Rattigan did not see the driver or car again, and it was without his knowledge that the driver went to Messrs. Rawlings. It is obvious that he could have given no instructions to the driver as to the warning given by Messrs. Rawlings and the condition of the car disclosed by their examination. Mr. Rattigan was not present at the inquest, and consequently the statement could not be corrected then, and we are desired on his behalf to take the first opportunity of stating the actual facts."

[This letter places a different complexion on the affair, and if the driver desires to reply we shall be pleased to afford him an opportunity for doing so.—Ed.]

# NEWS.

The King and Queen have intimated their intention to witness the great international motor boat race on July 30th. Full particulars regarding this important event appear in "The Motor Boat."

The Midland A.C. will hold a hill climbing contest at Sunrising Hill, Kineton, on Saturday, July 23rd. This bids fair to be a most interesting event, and a large and important entry is assured. The first award will be a handsome cup, which has been presented to the club by its esteemed president, Mr. J. Broughton Dugdale, J.P., while certificates will be given to each driver completing the trial.

### *Development of Motoring in South Africa.*

A correspondent writing from Pretoria confirms statements recently sent us by South African colonists to the effect that motoring is making headway in the country. The greatest disadvantage that the motorist labours under is the state of many of the country roads, which in many cases are mere ox-waggon tracks, crossed by "spruits" (*i.e.*, watercourses), which develop into raging torrents in the summer rains. Pretoria has a very large number of motor vehicles relative to the size of its white population. The condition of the roads is well testified to in the story now running in our pages by Mr. Henry Bennett, and the photos appearing with it. We are indebted to our correspondent for the excellent photo group of Pretoria motorcyclists, which is reproduced on page 687 of this issue.

Mr. Charles B. Ward, who, as reported on another page, was successful in procuring the second prize in the Southern Motor Club's 100 miles' reliability trial, only missed the first award by getting home 50 seconds before the allotted time, viz., six hours. He speaks in high praise of his 4½ h.p. Riley tri-car, which he says ran for six hours without a single stop or trouble of any kind.

### *Motor-Bicycle Racing in Belgium.*

The new Zurenborg track at Antwerp was the scene, on the 10th inst., of some phenomenally fast motor-bicycle racing. In a race of 10 kilometres (about 6¼ miles) Olieslagers, on a two-cylinder 6 h.p. machine, won by about 30 yards in 6 mins. 56 secs.; Dancart being second, Bertin third, and Marius The (the well-known pacer) fourth. One of Olieslager's laps was covered in 13⅗ secs., which works out at 68 miles an hour. Olieslager is a competitor in the Ostend races which began last Thursday and finish on Thursday next. Some further fast times may be therefore expected.

### *Lord Cairns Summoned.*

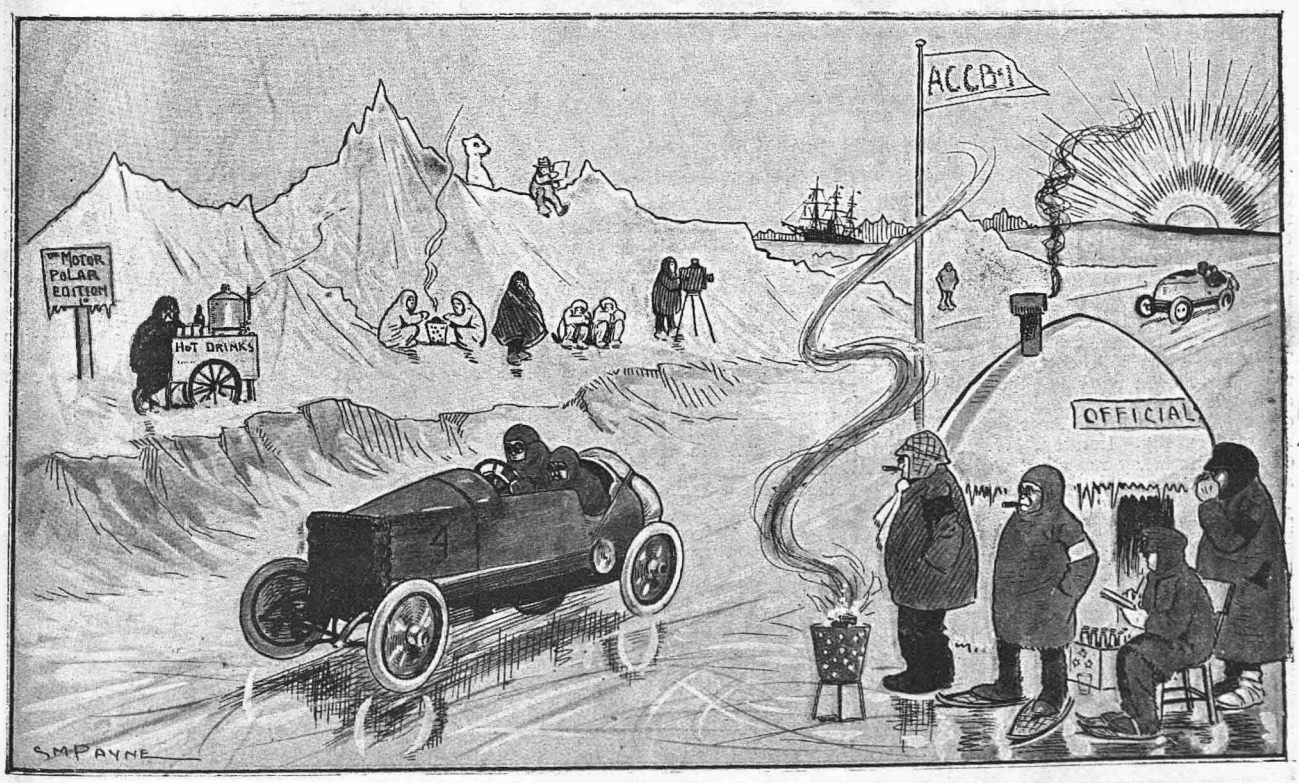
Earl Cairns was summoned at Chertsey on the 13th July for driving his car at Egham in a reckless manner, so as to endanger the lives and limbs of passengers on the highway. Two police constables gave evidence and stated that pedestrians were endangered, and one officer stated that he succeeded in preventing some children from being run over whilst crossing the road. Earl Cairns gave evidence on his own behalf, as also did Lord Annesley, who was with him in the car. Mr. Staplee Firth defended, and the case was dismissed.

### *Contrasts*

On Tuesday last, one of the new commodious motor omnibuses (No. 1, in fact), of the Great Eastern Railway Company was seen close to our offices. It will run between Lowestoft and Southwold. A few minutes afterwards, as a coincidence, one of the cars which represent London's solitary motor public service running from Kilburn to Marble Arch, passed the Holborn Town Hall. As a striking object-lesson in the way of showing the value of motors for traction purposes, a horse ambulance removed an apparently dead or dying horse from the thoroughfare the two 'buses had just traversed.

### *A Duryea Publication.*

"Duryea Power Carriages: their history, development, construction, management, and care," is the full title of a very comprehensive treatise which has just been issued by the Duryea Co., Coventry. The title explains the scope of the work, which exhaustively deals with the principles and mechanism of the Duryea cars. The history of the Duryea, describing its development, is particularly interesting, as it shows that the car is not by any means a new invention, but that the company have been working upon definite lines towards one clear goal for many years. The book deals particularly with the details of construction of the new British-built series of 12 and 15 h.p. carriages, and it contains the first really full description yet published concerning them. The book contains no less than 63 pages of interesting matter, the illustrations being exceptionally good and profuse. To actual users of Duryea cars this admirable publication is absolutely indispensable.




*"Barney Oldfield says all straightaway motor race records will be made on ice."*

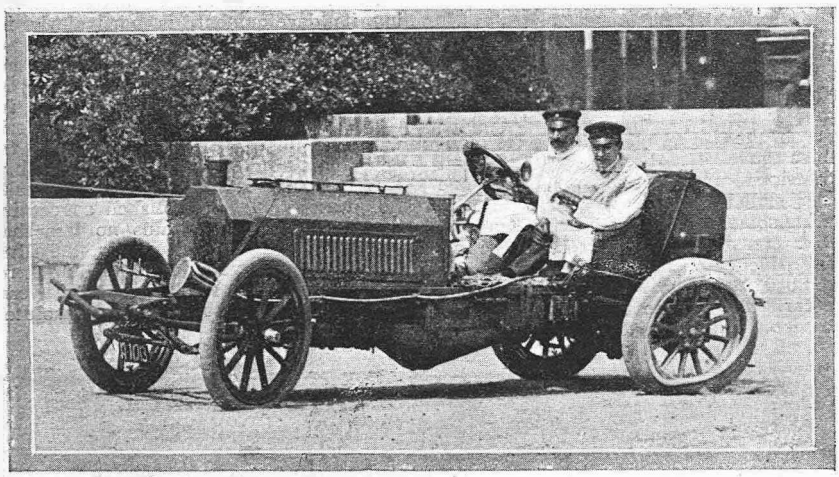
**The present hot weather has caused our Artist to anticipate the above scene in the Polar regions.**

## NEWS.

The July 30th run of the Berkshire A.C. has been postponed to August 6th to enable members to witness the motor boat races on the Solent.

### The Motorcycle Reliability Trials.

The committee of the Auto-Cycle Club has approved of the scheme for the forthcoming reliability trials, as framed by the Trials Advisory Committee, making one or two minor alterations. For instance, past experience in connection with all the trials that have been organised from Piccadilly has suggested the advisability of marking the various qualities of a machine by proportion. The Advisory Committee had laid down those proportions in deciding the relative importance of, for instance, brakes (50 marks) to reliability (1,000 marks), and the Club committee had adopted those figures, merely simplifying the method of applying them.



**Mr. S. F. Edge pulling up just after having displaced a rear tyre.**

The Club does not quite approve of the proposal to give a gold medal with each first-class certificate; but it has decided that such machines as show sufficient merit in the opinion of the judges should be awarded gold medals, which may come to the same thing in the end, only that the judges need not make the award where they consider it not fully deserved. The prospectus and entry form for the trials have been issued to the trade, and any person desiring copies should address the Secretary, Auto-Cycle Club, 119, Piccadilly, London, W. Entries close on Saturday next, but will be open a further week at a slightly higher fee.

## PUNCTURED TYRE EXPERIMENTS AT THE CRYSTAL PALACE:

A two-fold exhibition of puncturing was given on the Firework Terrace at the Crystal Palace, last Tuesday morning. Messrs. S. F. and Cecil Edge succeeded (not without difficulty) in puncturing three Dunlop tubes, and, at the same time, did much to remove the impression that a punctured or burst tyre necessarily spells disaster or death to the occupants of the car.

ABOUT FIFTY REPRESENTATIVES OF THE PRESS

travelled down to Sydenham at Mr. Edge's invitation. Arrived at the Palace, we were convoyed to the gravelled terrace from which the fireworks are let off. Here the principal actors in the play were grouped—S. F. and Cecil Edge, and the two cars (a 15 h.p. touring Napier and the renowned "G.B." racer, which Edge drove in Germany). But of even more attraction, perhaps, for the Pressmen, were the puncture-dealing preparations ready fixed on the track. In the centre of the terrace was a 3ft. by 6in. board (firmly attached to the ground), literally bristling with chisel blades, placed in the "Prepare to receive cavalry" position; beyond this was a liberal supply of broken bottles, jam pots, and other common objects of the roadside, and in reserve was an iron plate studded with sturdy 3in. prongs.

At 12.30 sharp Cecil Edge took the touring car at a comfortable legal limit speed over the "death trap," but the sturdy Dunlop covers absolutely bounded over without damage. Leading up with three extra passengers, a second trial was apparently equally ineffective; but a faint "pop" when the car reached the further end of the terrace suggested a puncture, and it was found that the tyre of the near steering wheel was deflated.

NO SWERVE OF ANY SORT

was noticed. Then a double track of chisels and prongs was laid, but four runs over these produced no other result than additional proof of the puncture-resisting qualities of Dunlop tyres. Sufficient had been done, however, to show that a deflated tyre has no dangerous effect on the running of the car.

Attention was next concentrated on S. F. Edge and the racer. In his white coat, and with his mechanician, Macdonald, on board, one had all the elements of a Gordon-Bennett start. The extra weight and speed of the car told: in the first attempt blood was drawn, and careful observation of the retreating car showed that the tyre deflated about 60 yards beyond the trap. Mr. Edge estimated his speed at

FIFTY MILES AN HOUR,

but not a suspicion of a swerve was noticed: it was again the tyre on the near steering wheel which gave out. At the second attempt still more success: this time the near driver punctured. Then, as a crowning display, Mr. Edge announced that he would remove the cover on one side of the near driving wheel, and attempt to fling it off. Three times he flew past along the track, intentionally swerving his car to right and left in order to help in throwing off the tyre, but even under these conditions the tyre held, and the car ran steadily. Then, as a last resort, a transverse cut was made on the inner side of the cover, and this additional loosening was effective, for at the fourth lap, when travelling at about 40 miles an hour, the tyre left the rim, bounded along for thirty or forty yards, gaining slightly on the car, and then leaped gracefully into a chandelier of fairy lamps on the grass bordering the terrace. This was the concluding and conclusive incident of an interesting and instructive exhibition; for if, under these extreme conditions, a car can still be run and steered easily and safely, the "burst tyre" dangers of the scare Press resolve themselves, like the essential gas of the tyre itself, into thin air.

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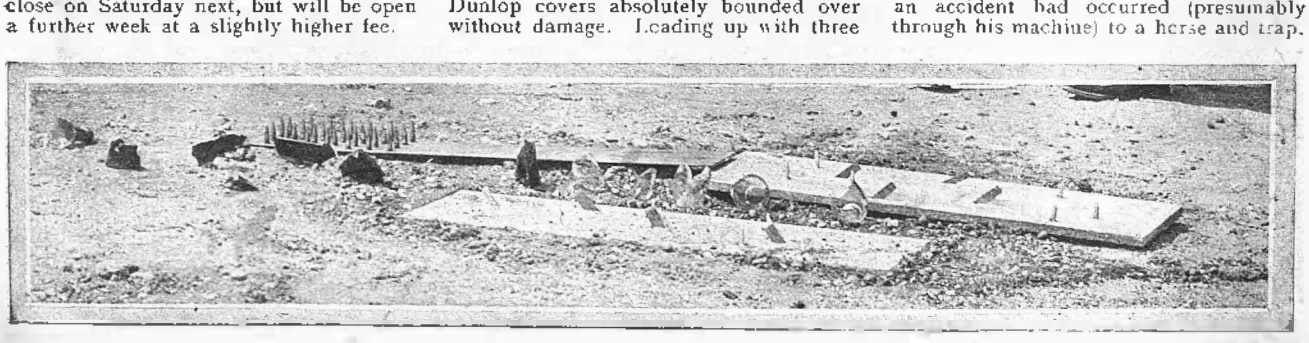
A Lincolnshire motorcyclist has been fined £2 and costs for not stopping after an accident had occurred (presumably through his machine) to a horse and trap.



**The "puncture board," over which the cars in the tyre demonstration were driven.**

# NEWS.

### Stoneleigh Hill Barred to Testers.

The Warwickshire County Council have issued a notice prohibiting motor manufacturers from testing their machines up Stoneleigh Hill, a very stiff gradient situated about three miles out of Coventry, on the road to Leamington. During the busy periods a very large number of machines are tested up this hill, and the Council point out that in five consecutive days recently 50 motorcycles were ridden up and down the hill for test purposes no less than 232 times.

### Berlin's First Car.

It is exactly a quarter of a century since Berlin first became acquainted with automobiles. In 1879 the French engineer Bollé, from Le Mans, introduced the steam carriage into Berlin, and commissioned Wöhlert's machine-building firm to construct Droschken according to his model. They were easily steered, and built to carry six persons besides the driver. Some 22 kilometres an hour—say, fourteen miles—could be got out of them. The Bollé acquired a mushroom popularity through the patronage of the old Emperor William, the then Crown Prince Frederic, and the officials, who were often seen taking the air—to say nothing of the smoke—in a Bollé. Its cumbersomeness and high price—£500—soon relegated it to the museum.

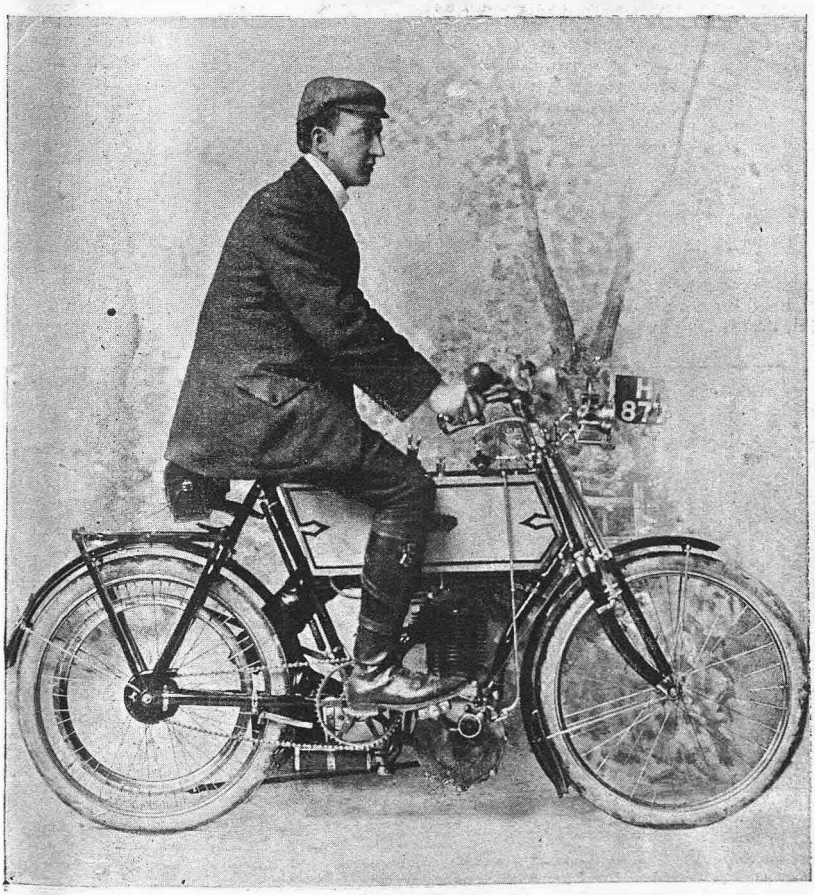
# THE FORTHCOMING LIGHT CAR TRIALS.

## THE OBJECT OF THEM DISCUSSED.

From the inauguration of this journal, in season and out of season, it has been our policy to persistently advocate the claims of the man of moderate means to more consideration from the manufacturers than he had hitherto received. A maker embarks in the industry, not from philanthropic motives, but with the whole and sole idea of making profits from the investment of his brains, energy and capital; so long as he can see such profit resulting from the sale of cars costing anything up to £1,000 or £1,500, it is a natural feeling to continue to push the use of the larger vehicles by every means in his power. If the sale of five or six small cars will only realise the same amount which a single large car would bring, he is adopting a sound business course in continuing to cater for that class of trade which gives, on the surface, comparatively less trouble. But are the actual profit-making results really in the proportion of five or six to one? And is the trouble involved in the sale of one large car no more than that attached to a small one? Our contention has been always that there can only be a limited demand for a costly car, and the demand will be supplied by those manufacturers who not only turn out the highest quality of work, but who boom their wares by a costly method of advertising in the way of building special cars for racing, with all the attendant expense and risk which racing involves. Let the reader enquire of any one of his motoring friends as to those he considers to be the principal marks or trade cognomens of international renown. Perhaps ten or twelve names may be mentioned, hailing from the different European countries, all of whom have attained their present eminence by indulgence in a series of costly contests that only the firms with the most ample resources can hope to emulate. Those few firms, who are securing orders for big powered cars at high figures, find that unless interest is continually aroused amongst the wealthy classes by the creation of new records, or the winning of fresh races, orders fall away for their most expensive type of vehicle. That these are hard, solid facts there is no gainsaying, and in proof thereof we might point the moral of the recent Gordon-Bennett contest as applied to the French eliminating trials. This was a veritable conflict of giants, and many of the entrants must have run the ordeal with the hopefulness of gamblers, trusting to luck to squeeze through somehow or another, but with the full knowledge that the result would be death or glory; the glory not alone of victory, but of that financial backing which an international race winner might be certain of securing from the most level-headed of business men.

THE FRENCH WINNER FULLY DESERVED ITS PRIDE OF PLACE,

and won it on sheer merit; with the rest of the world we take off our hats and tender our congratulations. Our neighbours across the channel have, quite naturally, waxed enthusiastic over the victory and the victors; but what of the other twenty firms of various nationalities who had built cars for the race, and who fell out by the way? Most of these must have spent as much money, and possibly built cars quite equal in every respect to the winner's; but as there could be only one winner, the remainder fall into the limbo of the forgotten, and their vast expenditure must be written down in their balance-sheets as absolute and entire loss. Of what interest can it be to the man who wishes to expend £200 on a car for business or pleasure, that the noted "Highflyer" has beaten the world's record for a mile by one-fifth of a second? Does it prove thereby that the purchaser will save £10 or £20 per annum upon his repair bill if he buys a small car from that celebrated workshop? If this were the natural result of a record being attained, then racing pure and simple would be the sole guide to the buyer. By no means do we wish to decry racing, or the advertisement it brings in its train to the successful maker, and we are fully aware of the vast differences which the racing car has effected on the turn-out of the present-day tourist machine, compared with the lumbering and noisy vehicles which clattered over our roads only a short four years ago. Whilst the possibility of manufacturing powerful engines carried by frames and wheels of surprising lightness has been fully demonstrated, the application of the principles thus evolved has been entirely confined to the four or multi-cylindered car, the majority of manufacturers possessing large works looking with disdain upon the



T. Hooydonk on his 3½ h.p. Ariel—the machine with which he secured a gold medal award in the recent Edinburgh run.

# NEWS.

light car movement, and contending that "there is no money in it." It is no part of the business of this journal to attempt to suggest the methods upon which successful concerns can be built up, or of the most profitable outlet for trade; but we are convinced that, in spite of the new types which appear on the market at frequent intervals, intended only for the limitless pocket, the quickest and surest foundation for profit-making will be found in the light car. We might here particularise a well-known British firm, who (when their experimental work was quite completed) entered the industry eighteen months ago by offering a car at a fixed price, and, knowing perfectly well what the car was capable of doing, positively refused to make the slightest deviation from their standard pattern. They could thus turn out the numerous parts in quantities, and keep their repetition tools running up to their full capacity of work with commensurate economy of cost in production. The assemblers or fitters, not having to spend a large portion of their time in endeavouring to fit round pegs in square holes, could quickly place the standardised parts in position, and the complete car could thus be offered at a price which would otherwise be impossible. This concentration of energy upon one thing only has resulted in a reasonably-priced car, which, thus early in its career, has obtained favourable opinions from trade agents and the buying public,

WITH AN EVER INCREASING DEMAND FROM THE LATTER.

Upon the conclusion of the reliability trials for cars in 1903 we felt convinced that the meritorious performances of the light cars were quite overshadowed by their larger competitors. At that time we emphasised our contention that it was hardly a fair test to expect a single-cylinder car, costing £150, to attempt to compete on equal terms with cars costing £1,000. We did not lose sight of the division into classes, according to price, with the distinct awards in each class; but these classes were rarely taken into account by the general Press of the kingdom in their reports of the trials, and only those cars arriving at the stopping places early received much attention; whilst the speed trials at Bexhill and the hill climbs were a glorified triumph for the big cars at the expense of the little fellows, whose equally good results, for their power, had the scantiest notice. We considered the whole conditions of the trial as unjustly handicapping the cheaper cars for, to keep well inside the rules, they had to be constantly overdriven. Weighing all these circumstances, we made enquiries from a few firms in the trade, and their endorsement of our views was of so unanimous a character that we immediately issued a public announcement of our intention to organise a trial for light cars only. The response by the makers was quite as gratifying as we had anticipated, and this approval was only qualified by objections from one or two not disinterested quarters. The majority of the go-ahead manufacturers could well see that we had no axe to grind, and that our sole aim was to promote the use of a class of car appealing to a large majority of buyers. The reasons for our withdrawal, after thoroughly organising the multitudinous details for carrying the trial through in an impartial manner, were sufficiently indicated by the Editorial in last week's issue.

The Automobile Club has this year decided to devote the reliability trials entirely to light cars costing not more than £200, and in this complete confirmation of our views we may take some credit for correctly forecasting the wants of the public over nine months ago. The bare announcement of the holding of the trials, and the avowed object in the encouragement of the production of a moderate-priced car, has already aroused interest throughout the country. Many entries, at this early period, have been sent to the Club, and we feel certain that a very large and representative collection of vehicles will take part. For the first time in the history of the movement buyers will be enabled to thoroughly gauge the merits of the cars they fancy, and will not have their attention distracted by speed tests, which bear no sort of relation to the continued good running of a vehicle.

THE WHOLE ESSENCE OF THE FORTHCOMING LIGHT CAR TRIALS

is reliability, first and foremost, and the rules have been drawn up with this object always in view. We are quite in accord with the Automobile Club as to the pressing need for the fullest possible attention being devoted to the car "for the man of moderate means," and during the next few weeks we shall devote a portion of our space to a full and technical description of all the cars entered, and to explanations of and comments upon the trial rules, besides dealing with all matters of interest appertaining to the trials which may be of use either to the buyer or the manufacturer. Following our usual custom, the trials themselves will be fully described and illustrated by our own staff of writers, artists and photographers.

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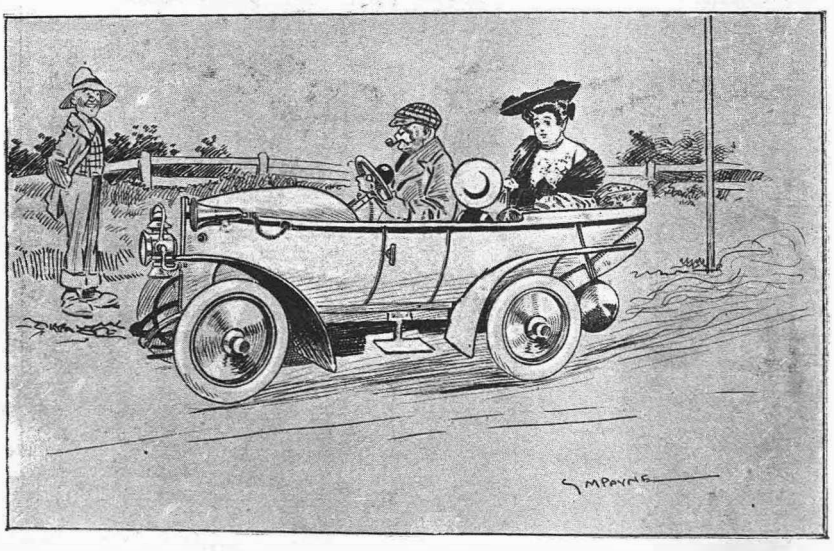
The officials of the Croydon Motor Club will be glad to welcome any motorists who may care to take part in their run on Sunday next. A start will be made from headquarters, Swan and Sugar Loaf Hotel, South Croydon, at 10.30 a.m. sharp.

### *Irish Hill Climb.*

The Irish Motorcycle Union was more successful with its hill climbing competition on Saturday, July 9, than it was with either of the events of a similar character that it attempted to bring off last year. The first of the latter was stopped by the police, and in the second the hill selected was so steep that none of the bicycles were able to get up, even with pedalling assistance. It was at one time feared that a similar result would be arrived at in connection with the competition under notice, as the climbing of the "Long Hill" from Kilmaconagne to Calary Bay is a very severe test indeed. The entry was small, many of the members having satisfied themselves of the impossibility of getting up the hill; but the performances of those who competed were very creditable. Ten of the eleven competitors in the pedalling class ascended the hill, the smallest horse-powered machine to get up being a 2 h.p. Triumph, ridden by J. G. Drury. The winner turned up in H. S. Huet, on a 3½ h.p. Minerva. C. B. Franklin, on a 2¾ h.p. F.N., was second in the pedalling and also the non-pedalling class, the latter being won by A. Summers, on a 3 h.p. Triumph in faster time than that accomplished by the winner of the pedalling class. The distance covered just exceeded a mile and a half.

Pedalling Class.—(1) H. S. Huet, 3½ h.p. Minerva, 3 mins, 35⅘ secs.; (2) C. B. Franklin, 2¾ F.N., 3 mins. 39 secs.; (3) A. Summers, 3 h.p. Triumph, 3 mins. 47⅗ secs.; (4) F. A. Wallen, 2¼ h.p. Triumph, 3 mins. 49⅘ secs.; (5) C. G. Grey, 2¾ h.p. Bowden, 3 mins. 58½ secs.; (6) R. W. Stevens, 2¾ h.p. Phœnix, 4 mins. 15 secs.; (7) J. G. Drury, 2 h.p. Triumph, 4 mins. 21⅗ secs.; (8) H. A. Evons, 3 h.p. Singer, 4 mins. 28⅘ secs.; (9) H. J. Seymour, 2¾ F.N., 5 mins. 41⅖ secs.; (10) R. E. Price, 2¾ h.p. F.N., 5 mins. 50⅗ secs.

Non-Pedalling Class.—(1) A. Summers, 3 h.p. Triumph, 3 mins. 34 secs.; (2) C. B. Franklin, 2¾ h.p. F.N., 3 mins. 41 secs.; (3) H. A. Evons, 3 h.p. Singer, 4 mins. 36½ secs.; (4) H. A. Wallen, 2¼ h.p. Triumph, 4 mins. 57⅘ secs.; (5) H. S. Huet, 3½ h.p. Minerva, 5 mins. 2⅘ secs.; (6) R. E. Price, 2¾ h.p. F.N., 6 mins. 8½ secs.




**When Brown moved from the seaside he had his motor boat converted into a light touring car.**

# NEWS.

A large number of streets and boulevards in Paris have just been treated with Westrumite. The effect of this, if the weather keeps dry, will be watched with interest.

Fifty journalists, representing some of the leading papers in the North-Eastern States of America, were taken out for a motor picnic recently by the Knox Automobile Co., of Springfield, Massachusetts.

The Austrian Ministry of the Interior has drafted a Bill for the obligatory numbering of motors throughout the country. Cars are to carry at the back identification plaques provided with letters and numbers, as in Germany.

### *Motorcycle Reliability Run in Italy.*

The Italian Touring Club has just concluded a motorcycle reliability trial from Turin to Col de Sestriers and back. Of 37 starters 31 completed the half and 21 the full distance in schedule time. The order of merit of the first four in respect of average speed was:—1st, Giuppone (5 h.p. Peugeot); 2nd, Battagliotti (2¾ h.p. F.N.); 3rd, Quaranta (3 h.p. Invicta); 4th, Reale (3½ h.p. Peugeot). In respect of petrol consumption the four best performances were—1st, Ansaldi (2¾ h.p. Sarolea); 2nd, Carbone (2¾ h.p. Buchet); 3rd, Patrone (4 h.p. Turkheimer); 4th, Battagliotti (2¾ h.p. F.N.) The trials have taught many lessons.

### *Light Side of the News.*

A motorist in Ohio is reported to have created a fresh kind of record. On a trip of 275 miles he stopped 150 times to avoid frightening horses. His name was Jay, and the horse-owners must have guessed it.

* * *

An ordinance has recently been passed by the mayor and aldermen of Pratt City which makes it a misdemeanour to drive a motorcar faster than six miles an hour. Chicago "Motor Age" in announcing this fact makes no comment beyond asking—"Where is Pratt City?"

* * *

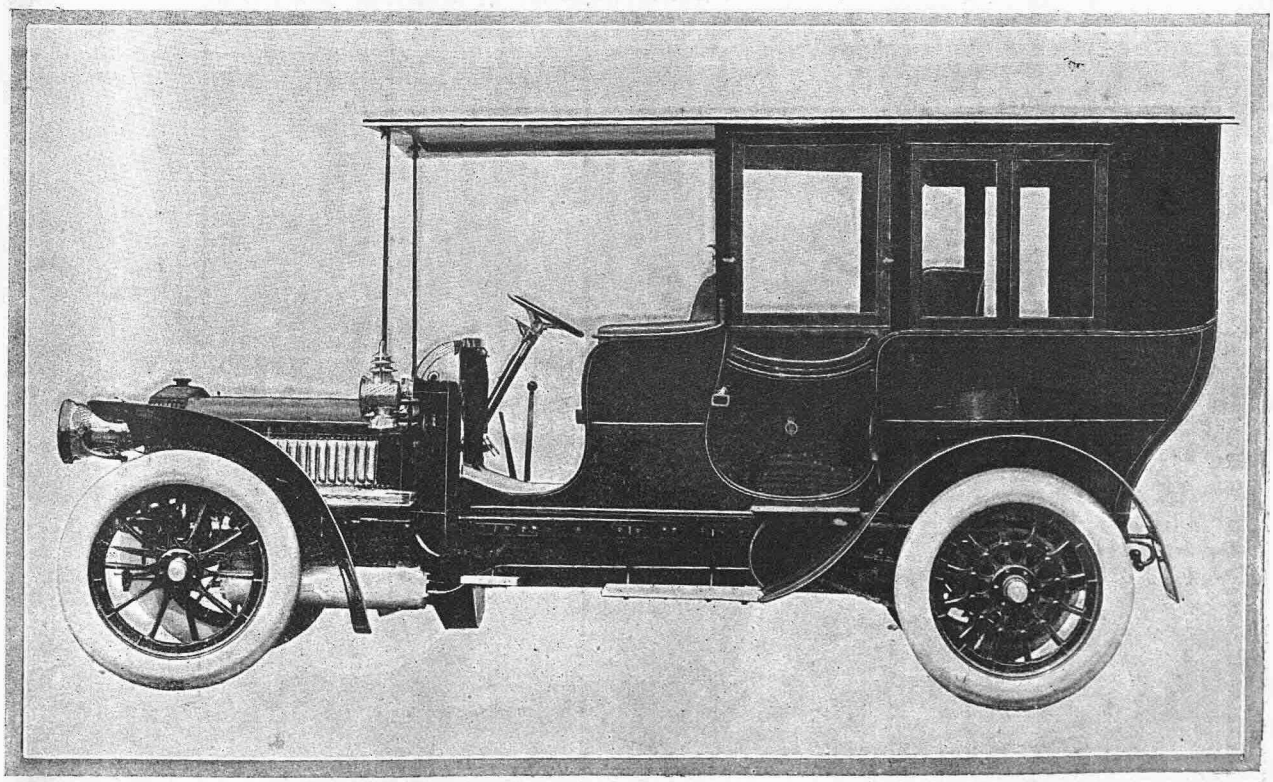
An American journal reports that "In a decent touring competition for motorcycles arranged by the "*Cote D'Azur Sportive*," a sporting journal of Nice, Lamberjack on a Griffon machine won first prize." This is very nice reading for Lamberjack and the Griffon people, but rather rough on the French papers which organise road trials.

### *King Edward's New Car.*

The King's new Daimler is a splendid example of the progress which has been made of late in the designing and upholstering of expensive cars. It has the latest convenience in the shape of side entrances, a swivel armchair being fitted at each side, and a fixed seat behind large enough to seat three comfortably. It is roofed in with a canopy, from which hinged windows can, in cold or dirty weather, be let down to make all snug. Another neat contrivance is the glass screen behind the driver's seat; this is made to open in the centre. Electric lighting is fitted, and the blue leather upholstery and blue pile carpet give a very "toney" appearance to the inside. Outside, the body (a fine specimen of Hooper's work) is finished in Royal lake, picked out in red. The wheels are shod with Collier tyres.

### *A Wonderful Escape.*

"Tri-car" writing us from Warrington, on Sunday week says: "A heavy fog visited this part last night, or early morning, and at 8.30 this morning (Sunday) my attention was drawn to a damaged iron fence on the ship canal side, near the Latchford Swing Bridge. Users of the Knutsford Road will know where the old road was cut through for the canal, it is now necessary to take a sharp turn to the left for the swing bridge. From the wheel tracks, a car had driven straight into the fence, nearly levelling it, the seriousness of which becomes apparent when about 12 feet from fence is a drop 20 feet, and 26 feet of water, and no possible chance of getting out. There was a large wet patch on the footpath, and some marks in the grass, where perhaps someone had been thrown. Truly a very lucky escape!



**THE KING'S NEW 28-36 h.p. DAIMLER CAR, WHICH IS DESCRIBED ON THIS PAGE.**

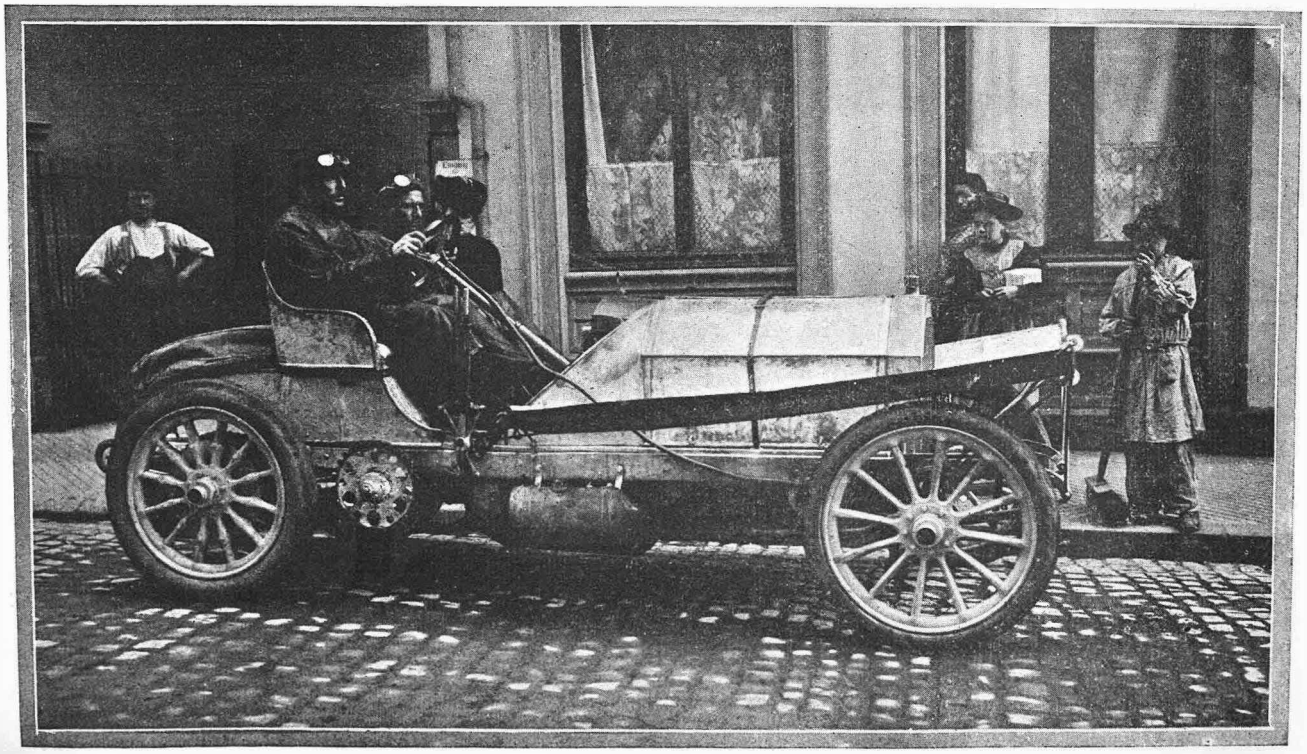
# WHY NOT ADOPT OUTSIDE FLY-WHEEL ENGINES ON MOTORCYCLES.

*By "DYNAMIC."*

Is it not an extraordinary thing that the best recognised principle for constructing an engine is entirely ignored by motorcycle makers! I refer to the outside fly wheel type—a type which it is exceedingly rare to meet with on the road. The same complicated design is still employed as was done by De Dion and Bouton a decade ago. Why is this? Personally I believe one out of ten makers could not give a satisfactory answer. Everybody follows the De Dion pattern; and to be in the fashion they adopted it as a matter of course. Sound mechanical reasons are difficult to get. A practical engineer who is not necessarily a motor cyclist—will as a rule, express surprise that the small enclosed fly wheel on a high speed engine having but one impulse per two revolutions is used. The characteristic features of all gas engines is a good big fly wheel; yet the motorcycle engine is a gas engine, and this is just the feature it lacks. Now first of all, let us consider what we gain by having the fly wheels enclosed in a case. There is

A CERTAIN SYMMETRY OF APPEARANCE,

more in the artistic than the mechanical sense, the wheels being enclosed do not fling oil or mud over the rider, and the weight of the two wheels is well supported between the two bearings. On the other hand look at the disadvantages; an extremely complex and expensive method of building up the shafts, fly wheels and crank pin. There are fastenings at the shaft ends and crank pin ends, requiring very careful fitting to get the whole system true. If it is the least bit out of truth the shafts are thrown out of line, causing the engine to work very stiffly, and possibly (as often happens) the fly wheels will foul the crank case as they revolve. If it is necessary to remove the connecting rod for any reason (such as to renew the liner or bush) the whole crank system has to be dismantled, and this is a process requiring skill and special tools, as the wheels are generally pressed up on to the coned seatings of the crank pin; and as many amateurs know to their cost it is not a job that can be tackled at home. To get the engine to run smoothly an excessive weight of metal has to be used in the rims; simply because the diameter must necessarily be small. The big crank case means that a lot of oil has to be used to get efficient lubrication, and a little consideration will show that the oil is being continually thrown to the extreme edge of the wheels by the centrifugal force, and consequently the minimum amount reaches the piston and bearings. Now let us consider what we gain by adopting the outside fly-wheel. Firstly, there is the one-piece crank shaft, balance weight and crank pin made from a steel forging and capable of being machined and ground mathematically true. By adopting the one-piece crank shaft we do away at one stroke with screwed and coned parts with their complications and liabilities to come loose. The crank case itself can be of very small dimensions, and a very small quantity of oil will give effective lubrication. The connecting rod can be removed with the greatest ease, and no part of the system can be thrown out of truth in the least. A long single bearing can be obtained without in any way necessitating excessive width of tread on the machine, because the driving pulley can be made to overhang the bearings to a very considerable extent. The fly-wheel can be made very much larger in diameter than at present at a big decrease in weight and a higher resultant efficiency. It is an easy matter to key up the wheel dead true and get a perfect balance. If an objection is raised on the score that the wheel flings mud or oil about and may also catch the rider's clothing, what is there against putting a simple sheet aluminium guard over the rim? This defect exists more in theory than in practice; because if the bearing is well designed, it should be impossible for oil to reach the fly-wheel. It is a remarkable fact that it is only quite recently that manufacturers have recognised the value of a large fly-wheel in constructing their engines. Not the least of the advantages at once perceived was the very noticeable reduction in vibration, especially when the engine was running slowly. Then, for hill climbing, a big wheel will keep the engine moving much longer than it would with small wheels.



**Jenatzy on his 90 h.p. Gordon-Bennett Mercedes. His patent collapsible mudguards are clearly shown.**

# OTHER PEOPLE'S VIEWS

*NOTE.—These columns are set apart for the discussion of motor topics by bona fide readers of "THE MOTOR," and trade letters containing veiled advertisements are not admitted. The Editor is not responsible for opinions expressed by correspondents in this section.*

### *Petrol Supplies in Scotland.*

Sir,—Could any of your readers tell me from his experience what is the best brand of petrol obtainable in Scotland for surface carburetters? I intend going up the west coast north of Fort William on a 3 h.p. cycle, and as the country is almost uninhabited for a greater part of the way it will be necessary to lay in a good stock of petrol at that place. Perhaps someone could tell me if a good brand is obtainable there.—Yours faithfully, "A1985."

### *A Police Trap.*

Sir,—A motor trap has been established between the Chained Bull Hotel and 250 yards beyond the church in Moortown village, on the road from Leeds to Harrogate via Harewood. The trap works both ways, and does not appear to be measured. The common danger clause, I think, will be relied on. Several numbers have already been taken of both cars and cycles. Hoping you can see your way to publish this information.—Yours faithfully,

R. WARING TAYLOR.

### *The Bat Pulley.*

Sir,—Re Mr. E. F. Thornton's letter in "THE MOTOR" of June 14th.

Until recently I had a patent Bat pulley on my Bat machine, which caused me a great deal of trouble through belt slipping badly, pawls coming out and pulley wheel then tearing up and destroying the belt (Dicks' V).

I discarded the old pulley and bought a plain V shaped one from the Bat people, price 10s. 6d., invested in a Magna Lincona belt, and since then have not had the slightest trouble or suggestion of slip. I have run the belt now 500 miles without once tightening it.

I should advise Mr. Thornton to do the same.—Yours faithfully, "FP47."

### *Water Boiling Away.*

Sir,—Has any reader had a similar experience to the following:—On my 6 h.p. De Dion car a few days ago the water in my cistern boiled when the car was standing outside a shop with the engine running slowly. I had only driven about four miles, and I am certain my water circulation was perfect. My wife called my attention to it, and when I came out to see about it I found tank had steam up properly and blowing off. This is the first time anything of the sort has happened, and when I started to run again it all quieted down and the car ran beautifully at once, as it always does do.—Yours faithfully,

G. MARTIN,
Commander H.M. Coast Guard.

[We should be inclined to attribute it to the pump running at a very slow speed, and thereby not circulating the water. —ED.]

### *Gudgeon Pin Mishap.*

Sir,—I had an unusual experience while riding my 3 h.p. Rex bicycle the other night. When travelling about 20 miles per hour one of the long tapered bolts that keeps the gudgeon pin in the piston dropped out and got wedged between the connecting rod and the crank case at the extreme end of the crank case. Fortunately I was not thrown; and after returning home (some five miles) and taking motor to pieces I was much relieved to find that no damage had been done. This is a part that evidently requires a different and better method of fastening other than by a split pin.—Yours faithfully,

W. J. BLOXHAM.

### *The Bradbury Machine.*

Sir,—With reference to R. Picken's reply in your issue of June 28th, re "Bradbury contact breaker," I must say that I did not find the contact breaker at fault, or any part of the ignition after severe testing. The mis-firing was caused by the inlet valve stem being very much worn. Since fitting a new valve I have travelled 700 miles, and have had no trouble whatever with mis-firing. As to the carburetter sprayer, I use No. 5 with the smallest funnel, which I find to work very satisfactorily. Last week, on examining the cylinder, I found a hole on the top about ¼ in. long and ⅛ in. wide. On sending it to the makers, they at once expressed their willingness to send me a new cylinder free of charge, a consideration which is certainly worthy of comment, as I have had the machine 14 months. If ever I need another motor I should certainly invest in a "Bradbury Peerless."—Yours faithfully,

P. H. LANGTON.



### *Petrol Consumption.*

Sir,—I was greatly interested in "Colonist's" letter re high powered machines and low petrol consumption, and I certainly agree with his remarks about the surface carburetter. I have just made a run of 158 miles with trailer and passenger with my "Rex" motorcycle on a petrol consumption of one and a quarter gallons. This, I think, is even a better performance than Colonist's, and speaks well for the efficiency of the Rex machines and the economy of the surface carburetter with which they are fitted.—Yours faithfully, "LONG-HAULER."

### *Cars for South Africa.*

Sir,—In your issue No. 119, page 417, "Colonist" states "Cars as at present built would be useless in Mashonaland, owing to the machinery being too near the ground." We beg to inform you that we are the agents for the M.M.C. Cars, and are having them specially built for South African roads and conditions. They will have 16 inches clearance, larger radiators, water and petrol tanks, extra strong axles, extra long springs, etc. We should be pleased if you would put this before "Colonist," who, we note, is leaving England in July. He will have the opportunity of inspecting a 20 h.p. car with special body, and a one ton lorry at the M.M.C. Works. Eight and 10 h.p. cars will have left before this reaches home. We should be pleased to show him these on his arrival in Cape Town. As his remarks give a wrong impression, we should be glad if you would give prominence to the gist of the above.—Yours faithfully,

R. C. GARLICK.
Garlick's Motor and Cycle Supply,
Lower Saint George's Street,
Capetown.

### *The Small Powered Motor.*

Sir,—Like "CD19," I also am astonished at Mr. Truman's remarks about the 2 h.p. Clement-Garrard. I have a 1¾ h.p. of the same make, with two-speed gear (6 to 1 and 8 to 1), and find it an excellent hill climber. Of course, the pace up hills is not great, but I do not mind that so long as I don't have to pedal. On a recent Sunday I got up Stag Hill without a single stroke of pedalling, and did not change gear until more than half-way up. I need scarcely say that the surface was in its usual condition of looseness and ruts. I think this a very good test for such a small engine, and should very much esteem the opinion of other riders of this handy little machine. I am of opinion that the reason so many riders do not get the best results out of these machines is to be found in the carburetter, which wants thoroughly knowing. When running with the throttle almost closed and spark advanced (which

## O.P.U.

gives 15-18 m.p.h.) almost all the additional air must be shut off, and more air must be given in almost inverse proportion as the throttle is opened, and the spark need never be retarded more than half-way I am astonished to find that many riders, having once found the correct mixture for a given speed and position of throttle, do not appear to think it necessary to ever alter the air lever, and consequently directly the throttle is opened the engine overheats, and they clamour for more power, and sell the poor little "underpowered" motor for next to nothing. I shall be much obliged if you can find room to insert this, as I do not think riders are paying enough attention to this point, which is not fair to the little motor, which has always carried me so economically and well.—Yours faithfully, "A2144."

### Cycle Frame Design and Motor Quads.

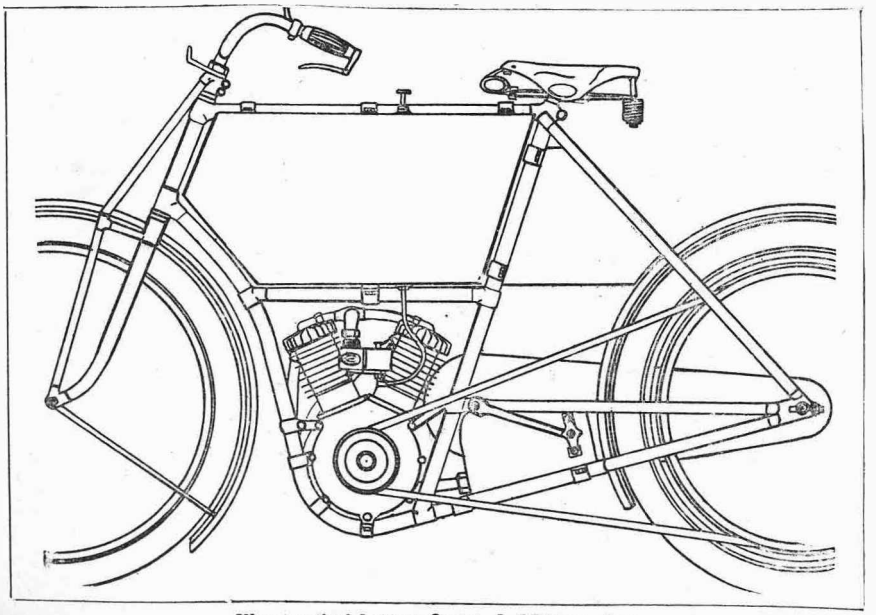
Sir,—Re the article on frame design, by Mr. J. W. Frings, in the issue of June 21st, I must say that I agree with Mr. Frings respecting his ideas as to frames, and ask him, or any other reader of "THE MOTOR" to criticise the design of my frame, a drawing of which I have asked the Editor to kindly publish. This frame I designed some three years ago when the first Minervas were on the road, though it was not until last season that I registered it as a design. I may also state that I am at present making a combined free engine clutch and back hub; so that I can make the machines chain as well as belt driven. As to the controversy re quads versus tri-cars, I have ridden over 500 miles this season on a 3½ h.p. Darracq Quad, water cooled, with two-speed gear and free engine; in fact, a machine up to date in every respect. Ours is a very hilly district, and while on the road I have come across a few tricars, but these have generally been waiting at the bottom of some hill for their engines to cool down, and therefore I have been unable to give them any idea as to the capabilities of the quad. Cars, however, I have run with, but I have never yet been left either on hills or on the level. I must also add a word of praise for the engine—a Soncin (80 mm. bore × 108 mm. stroke), which has never failed. The only arguments, in my opinion, that people can raise against such a machine as this are (1) noise, and (2) feared differential troubles. The first can be greatly reduced if the gears are properly cased in with some material which will not conduct the sound, and the second are overcome by the use of spur wheels instead of bevel. I notice that there is a new type of back axle shown in the issue of June 28th. From a casual glance at this it appears as if it should do away with all dread of differential troubles, as the parts seem to be so easy to get at.—Yours faithfully,

J. MILNES, JUN.
Manchester Road, Haslingden.

### Re-starting Beeston-Humber Motorcycle.

Sir,—I am the possessor of a 2¾ h.p. Beeston Humber motorcycle, this year's pattern, with free engine clutch operated by a lever. Of course, the principal object of this device is the ease with which one ought to be able to re-start the engine after free-wheeling down hill. This, I am sorry to say, after many attempts I have never been able to do. Consequently I have to keep the engine running the whole time, or dismount and restart with the handle. I have carried out the makers' instructions with regard to slowing down; retarding the ignition, and gradually putting the clutch in, but without success; the machine always comes to a dead stop. The makers now suggest I should have a valve lifter fitted, but if this is necessary surely it should be fitted at the outset. No doubt some of the enormous number of your readers have had experience of the Beeston Humber cycle clutch, and if they could kindly give me a wrinkle or two it would greatly oblige.—Yours faithfully,

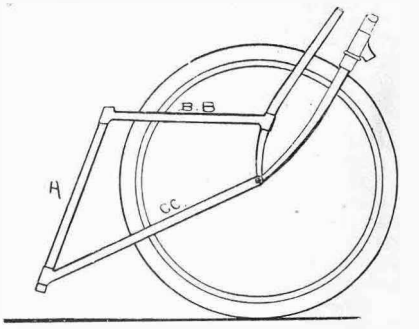
"P1225" (Kingston).



**Illustrating letter from J. Milnes, jun.**

### The Dog Nuisance.

Sir,—The enclosed sketch shows an idea for upsetting those dogs which are too "fond" of the motor-bicycle. A is a single tube coming about two to three inches off the ground, and is straight in front of the wheel. BB are two tubes coming, one from each side of the girder head and curved round the wheel to meet at the top of A. CC are two tubes




coming from the hub spindle each side and curved so as to meet at the bottom of A. Having seen so much of the "Dog Nuisance" in "O.P.V." lately, I am sending this idea to you. Perhaps someone will make it, it is not protected! I do not think a dog would like coming in contact with A.—Yours faithfully,

"STORAGE."

### The Cosi-Car.

Sir,—We have had our attention drawn to a letter in the July 5th issue of "THE MOTOR," in which your correspondent mentions the name of the Cosi-car. The inference, however, is that our car which negotiated the hill was assisted by pedals, as was the one in question which failed. As a matter of fact, the Cosi-car dispenses entirely with pedals, and what is more we claim it is the only sociable motorcycle attachment which has ever climbed this hill in an official test with two passengers aboard.—Yours faithfully,

THE COSI-CAR CO., LTD.

### Effects of Dust in Longuemare Carburetter Sprayer.

Sir,—On a recent Sunday evening I found, when too late, the reason why my P.B. motor tandem (De Dion engine) was weak at Westerham Hill. I noticed the same symptoms—mixture weak, and the engine would only start and run with the throttle nearly shut. On opening the throttle the engine would stop. Moreover, the extra air inlet to the carburetter had to be kept shut, although previously it could be half opened. I found that the trouble was due to a minute quantity of dust in the jets of the carburetter (Longuemare), although without removing the jet it appeared perfectly clean, and the petrol sprayed well; but on cleaning it the motor ran magnificently; in fact, it has never gone better. Although I occasionally clean the carburetter, I have seldom removed the jet, as it has always appeared clean, but I shall know in future not to judge by appearances, and I can heartily advise anyone whose engine has the same symptoms to try this tip.—Yours faithfully,

J. L. PITCHER

[We can endorse our correspondent's hint as to giving the jet of carburetter occasional inspection to see that it is clear. —ED.]

## O.P.U.

### English Manufacturers and Magneto Ignition.

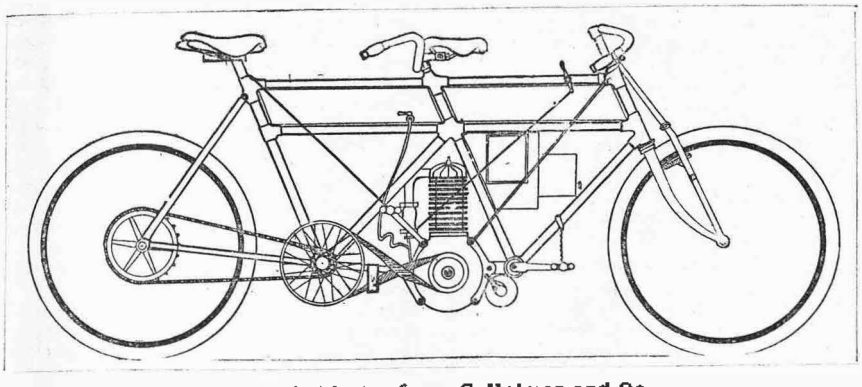
Sir,—On this subject it is true that English manufacturers are exceedingly backward in fitting magneto ignition to their cars; and it would be most interesting to find out the true reason for this. I do not think it can be that the ignition is not satisfactory, as 10 out of 19 of the best cars Europe can produce, namely, the final competitors in the 1904 Gordon-Bennett race, were fitted with magneto ignition, and the Mercedes and other well-known Continental cars have fitted it for years. The difficulty is to find what *is* the reason of this aloofness, and I can only attribute it to the fact that English manufacturers are under the impression that special engines or fittings are necessary (which is not the case, as the latest Simms-Bosch magneto ignition can be fitted without any alteration whatever), or else to the proverbial hatred of all British manufacturers, car or otherwise, to anything which is new or which they do not quite understand. I am sure the matter of ignition is of interest to every user of an internal combustion motor, and I trust this letter will lead to an exhaustive discussion upon so important a subject. —Yours faithfully, ERNEST H. ARNOTT.

### The Improved Back Axle.

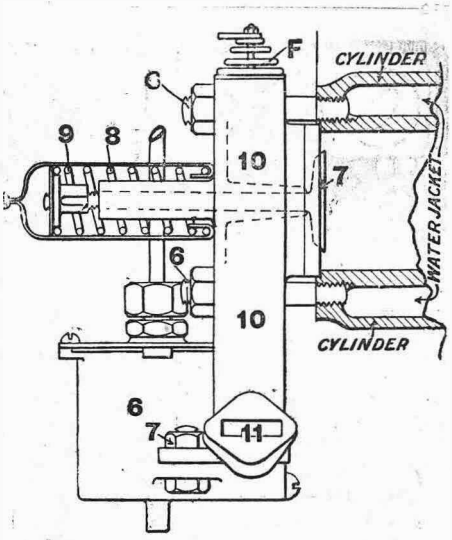
Sir,—I should advise Mr. T. H. Cole, who shows an improved back axle in yours of June 28th, to look up the back numbers of the "Scientific American" for the last three or four years before proceeding far with his patent. I have not time or I would do it for him, but it runs strongly in my mind that he will find illustrated there something exceedingly like his idea only in a rather more practicable form; in so far that it does away with the necessity of the hollow outer axles. The idea of getting the compensating gear at the end of the shaft in order to do away with the necessity of cutting the shaft is as old as—the hills I was going to say—but certainly it is at least 30 or 40 years old. I am engaged in the manufacture of traction engines, and we are constantly making compensating gears to go at the end either of the hind axle or the counter shaft, the only difference between ours and the American idea, or, for the matter of that, Mr. Cole's as well, is that ours is directly inside one wheel and theirs is just outside, a matter which will be found to be of considerable practical importance when the thing comes to be tried. If Mr. Cole would bring a short sleeve through the boss of his right-hand wheel and put his drive on that he could do away with the rest of his outer axle and fix his left-hand wheel fast on the end of his solid axle, which would make a much simpler job of this wheel.—Yours faithfully, W.C.W.

### The Bollee Car.

Sir,—In your replies to queries I notice that in answering J. Glaister (Whitehaven) re a Bollee inquiry you say "it is questionable if a car of this type is worth making any alterations to at all." As the owner of a Bollee, which I would not exchange for the best tri-car or Trimo that I have seen or heard of, I offer the opinion that it depends entirely on what kind of Bollee your correspondent has. Mine is one of the latest made genuine Bollees, carrying two passengers in front. It came to me with tube ignition, and it took me nearly a whole season to find out that 95 per cent. of the troubles of this type were due to the ignition. I changed it to electric and put a wind scoop on the cylinder head to cool it, and made a different car of it altogether. Nearly all the troubles were due to the fact that one had to have a rather powerful lamp close up to the head of an air-cooled cylinder. As soon as you get rid of this and get a draught of cool air on to the head everything is changed. If the carburetter is of the Phœnix Daimler type, which Bollee always fitted, I can only say that it is very doubtful if you can get a better. I have not yet seen anything worth the trouble of changing to, and I am familiar with most of the present popular types. If I were going to change I would have a Cremorne carburetter, so as to burn paraffin as well as petrol, but I do not see another that would tempt me. There is no car, big or little, dear or cheap, that has better material or workmanship in it than the genuine Bollee, and few have as good. As a mechanical engineer of long experience I know good work when I see it. I have been so pleased with my Bollée that I have cut it just between the front seat and the driver's and put in 18 inches in length to get a well to put my legs into, instead of straddling the tool box, and brought the steering wheel into the centre and put the throttle and spark advance levers on the steering column. In conclusion I would just like to repeat that I would not change my Bollee, with its strong substantial gearing and work generally and its three speeds, for the best three-wheeled bicycle, or tricycle, or quad that I have ever seen. —Yours faithfully, W.C.W.



**Illustrating letter from S. Holmes and Co.**




**Illustrating letter from The Vauxhall Ironworks Co., Ltd.**

### A Dangerous Road.

Sir,—It would be well if you would publish in your paper a notice warning motorists, and especially motorcyclists, touring westwards, to avoid the main road from Plymouth to Liskeard. Long stretches have been metalled, and the stones are not to be rolled in. A nasty accident has already occurred, and even if one gets through without personal hurt, one's tyres will certainly be ruined. The present state of the road is a disgrace to civilisation.—Yours faithfully, "C."

### Engine Position.

Sir,—Seeing that from time to time the correct position of engine is discussed by experts and otherwise, we have thought that enclosed may be of some interest to you. It is an illustration of a motor tandem which we built and run some three years ago. At this time motoring was practically in its infancy. We adopted this position after numerous trials, and found the best results therefrom. The engine is a 3½ h.p. auto-motor. The machine would carry three riders with ease, and many are the glorious spins we have had on same.—Yours faithfully,

S. HOLMES AND CO.

### Inlet Valve Governor.

Sir,—With reference to your issue of June 21st, on page 597 we notice a letter from H. J. Seymour on a device for governing automatic inlet valves, in which he mentions that he has protected same. It may interest your correspondent and other readers of the paper to know that this is covered by the patents in connection with our "Vauxhall" Light Car, and we beg to enclose a block, which we trust you will see your way to insert in the paper.

The block is indexed by numbers and letters, which signify as follows:—7, Inlet valve; 8, Inlet valve spring; 9, Inlet valve spring compressing stirrup; 10, Mixing chamber; S, Flexible steel wire to control handle; F, Automatic extra air inlet.—Yours faithfully,

THE VAUXHALL IRONWORKS CO., LTD.

*(The Editor is always pleased to receive correspondence on all motor subjects, but readers are asked to keep their letters as short as possible.*—ED.)

# Our Information Bureau

### SPECIAL NOTICE.

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

*1. Plain writing. Type writing for preference.*

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

*3. Questions to be clear, terse, and to the point, without tedious preamble or needless flattery.*

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

H. E. Shaw (Wakefield).—We will have your complaint as to difficulty in obtaining "THE MOTOR" on Wednesdays looked into by our publishing department.

N. A. Payne (Shrewsbury).—You can obtain an index from our publishing department that would fulfil most of your requirements. One is published for each volume.

L. Stephens (Plymouth).—The idea of adding the spray carburetter to the machine is simply to make the machine more reliable. Some users of the particular machine in question find the surface carburetter satisfactory and others do not.

### Belts, etc.

W. R. Craig (Ashton-on-Mersey).—(1) The Lycett belt will give you a good drive without much tension. The leather is very flexible. The driving pulley on your machine is rather small, and this accounts for the cotton belt you had not driving well, as this is not flexible enough to get a good grip of the pulley. (2) We can say that the self-sealers we have used have proved a distinct advantage over the ordinary air tube, inasmuch that thorn and similar punctures need not be repaired on the spot. Of course, the self-sealing tube is not claimed to be proof against bursts and large punctures.

### Alteration not Recommended.

B.E.W. (Southampton) writes:—I have a Minerva engine, which has the automatic valve (ordinary type). It runs very well, but if I could possibly get slightly more power out of it I should like to do so. Could this be done by fitting a mechanical valve?—Do not alter or do anything with your engine is our advice. It would mean a lot of alteration and addition of gearing to fit a mechanical inlet valve, and the chances are you would gain nothing for your trouble. Improve the compression as much as possible, and, if you like, fit a larger silencer, and you will get as much power as your cylinder can possibly give.

J.H. (Wembury).—For details of petroleum spirits and products, such as petrol, you would probably find that "Petroleum and its Products," by J. Redwood, published by Spons, London, would suit you.

J. Hand (Oxton).—Steam cars cost considerably more per mile for fuel than petrol cars. They take a considerable time to prepare and get up steam for starting, and have a rather limited range, according to the amount of petrol and water carried.

T. E. Smith (Aberdare).—(1) We should think that your accumulators had deteriorated and lost capacity. You might try cleaning out thoroughly, and fitting with fresh dilute acid of 1.190 sp.g., and having them charged up till they gas strongly. (2) You can rely on the Castle accumulator. The 20 ampere size should be good for 600 miles on one charge.

### Various Queries.

E. B. Barnes (Dalton-on-Tees).—(1) You can obtain a Revenue license for 7s. 6d. if taken out from October 1st. This is available to December 31st. (2) If your trembler has a roller at the end the cam should be slightly rounded off. The type marked (1), page 26 of the "Manual," suits well. (3) The F.N. carburetter, having the spraying cone, is undoubtedly more effective than simpler pattern. (4) For a 1¾ h.p. machine to be used in hilly country you will have to gear about 1 to 6½. No; not advisable to use a less pulley than 3in. diameter. (5) The Nilmelior coil is the Bassee-Michel, and is considered a very good make.

### Compression Vanishes.

A. Hancocks (Magilligan).—(1) The alternate disappearance and revival of the compression in your tricycle engine is rather curious. Are you sure that the inlet valve does not stick now and again? You say that sometimes the compression is restored by lubricating well. This being so points to the piston rings being much worn, or one may be broken. Another possibility is the stem of the exhaust valve being bent slightly coupled with a rather weak spring. This would account for the valve sticking fast occasionally. (2) There is nothing abnormal in the voltage of accumulator falling to 4.1 after it has been used. It will give a good current till it falls to 3.8 volts.



D.C.H. (Tamworth).—(1) An M.M.C. engine would suit you. (2) The extreme width over axles of any car allowed by law is 7ft. 2in. (3) Wheel base about 9ft. (4) For dimensions of frame it would be better if you had a look at a standard car and see for yourself.

S. C. Davies (Eltham).—We have never heard that the fact of the original Minerva silencer being mounted close to the carburetter caused excessive petrol consumption. We should attribute it to the engine compression not being good. If you intend having the tank opened you must be careful to get the work done by an experienced man. The Minerva surface carburetter is awkward to tackle.

P.T.D. (Ealing, W.)—The brass dome over the inlet valve on my 1¾ h.p. Werner does not fit at all well, the thread having become very much worn. This necessitates constant packing with asbestos and screwing up. Do you know of any way in which it could be repaired? Do you think it would be practicable to turn out old thread and braze a piece of brass inside and then cut a new thread in that?—If there is enough thickness in the walls the method you suggest would be all right. Of course, it might cost as much as a new dome would. There should not be much difficulty in obtaining a new dome.

### Exhaust Timing.

I. T. Morris (Ealing).—(1) There is nothing very much amiss with the compression of your engine if you can stand on the pedal for a quarter of a minute. (2) Exhaust timing is wrong if valve closes half way up on the exhausting stroke. From the fact that you find the valve opens at the commencement of stroke we should surmise that you had a very considerable clearance between the valve stem and the tappet. This would explain why the valve shuts so early. A 1-32 inch is ample space.

### Troublesome Coil.

J.C.P. (Bedford) writes—(1) Can you suggest any remedy for a coil which keeps sticking? It is an Eclair, and is double acting. The only way I can get a spark is by placing a piece of indiarubber under the screw at the end of the trembler bar. The screw adjustment is practically useless. I have great trouble in starting, in consequence, I believe, of the sticking or slow acting of the coil; but the machine goes fairly well when once started. The cells are freshly charged. (2) Another trouble is overheating, although the mixture is cut down to the lowest. When hot the engine knocks, but only then.—(1) Difficult to advise without having sketch of trembler. If it is the armature actually sticking on the core if you fixed a slip of thin paper underneath it would stop it. From your description it would seem as though you had a weak spring, or too close adjustment of contacts. (2) Are you sure it is not the lubrication that is inefficient? This would cause knocking.

# BUREAU.

S. H. Hedden (Brampton).—There is practically nothing to choose between the De Dion and M.M.C. engines.

J.A.—The duty to be deposited on motors entering Holland is 5 per cent. on the value of each machine. If you intend doing much riding in France it would be well to join the Touring Club of France; this would cost you about 7s. There are many advantages obtained thereby. The London agent for the T.C.F. is Mr. C. J. Just, 17, Victoria Street, Westminster. Try Messrs. G. Phillips and Sons, Strand, W.C., for maps and guide books of district you propose touring in.

### *Belt coming off Pulley.*

A. Gordon (Birmingham) writes:—Can you suggest a reason for the belt of my 2¾ h.p. Minerva machine continually jumping off the pulley? Both engine pulley and back rim run true. I have tried a new belt; this ran 30 miles without coming off, but afterwards it continually came off, no matter how tight. Would a lower gear remedy matters? At present the gear is 1 to 4.—We should suspect that the rear belt rim was not quite in place with the engine pulley. If this were the case the belt would come off, even if the pulley was quite in circle. Slightly re-setting the wheel in the forks might remedy matters. Other possible reasons are: (1) the belt does not bed deeply enough in the pulley; a smaller size belt would be better. (2) The belt hook or fastener is too large or too long, and thus causes the belt to jerk when passing over the pulley. (3) With a high gear the belt has to convey very jerky impulses when the machine is running slowly; hence the lower the gear the less risk in this direction. Some riders find it a good plan to fix a belt guard (simply a metal stay) on the rear frame stay.

### *A Puncture that Cannot be Traced.*

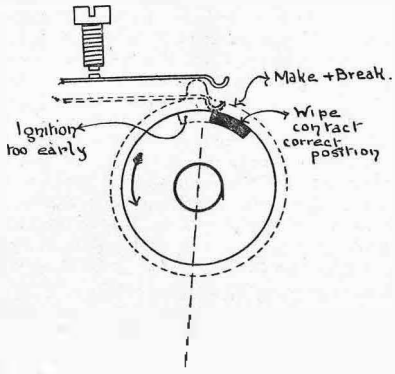
E. B. (Sheffield) writes:—I have an exceedingly small puncture in the back tyre of my motor-bicycle. It defies all the usual tests to locate it, and lets the tyre down to half pressure with annoying regularity in 12 hours. The tube is a practically new one, and I cannot find anything wrong with the valve. Can you tell me of a method for finding the leak; it does not show under water, and not a bubble appears at any part in 15 minutes' duration.—If the leak will not show when the tube is stretched under water, it must be small indeed. The difficulty with a very fine puncture of this kind is the inability to pump the air tube to a sufficient pressure to show without bursting. Professional tyre repairers have a special network outer cover for this purpose in which the tube is placed, and it can be pumped up to double the ordinary pressure. The best test under ordinary circumstances is to smear a length of the tube with soap water, and then stretch it and watch for a bubble forming. We should advise you to pay particular attention to the joint in the tube. In nine cases out of ten if the leak does not show on the tube, it is to be found here. If so, open up the joint and re-solution it. The application of some benzine to the joint readily loosens it.

E.B. (Birmingham).—We should certainly consider that having the combustion chamber of the engine only ½ in. from the tank is much too near, especially if directly beneath the petrol supply. The petrol would get boiled away, and the cooling of the combustion head would be interfered with. The minimum distance should be 1½ ins., and the farther away the better.

"Tourist" (Birmingham).—If you propose touring in France you would find Havre as good a port as any to start from. The sea journey is much longer, of course, than from Newhaven to Dieppe. The route is very interesting to Rouen, where you join the main road to Paris. (2) There is no lack of supplies, but on the whole things are rather dearer than in England. Hotel accommodation ample and inexpensive.

### *Relative Position of Make and Break.*

H. Freemantle (Rusholme).—(1) Too big a risk to dispense with gudgeon pins. Have you tried passing a piece of spoke wire through the holes in both screws and bending the ends round? This should prevent them turning. (2) The only explanation we can offer as to why your machine is slower now that you have fitted a trembler coil in place of the ordinary coil




is that you have not got the contact disc properly fixed on the shaft, and consequently you have too much advance on. It is a mistake often made; that is to say, the contact sector is made to occupy practically the same position relative to the shaft that the make and break previously did. It is obvious that the charge will be fired too early. The correct position is to have the sector in the position illustrated.

### *Accumulators.*

H. Penny (Manchester).—(1) We should surmise that your charging dynamo only has a nominal voltage of 12. The gas engine that drives it, you say, causes it to fluctuate three or four volts. Now it is evident that as you have two accumulators joined in series you have not got enough voltage to send into them the necessary current. You must remember that the back volts of the two sets of cells is 8, and if you only have an average of 10 volts to overcome it, it means that very little current passes into the cells. If the dynamo will give 3 or 4 amperes, you would get better results coupling the cells in parallel, or charging one at a time. (2) You must not use too strong an electroyle or the cells will not charge properly. (3) When the cells are new the first charge should be continuous, but afterwards it does not matter if you charge up in two or three separate periods.

B.H.S. (Hartlepool).—Strictly speaking, one lamp is sufficient on a fore-carriage, this being mounted on the front of the machine and also illuminating the number plate: it should be a powerful one of the acetylene variety. A rear red light is certainly an advantage, especially if it is necessary to dismount on a rather narrow road in the dark. Serious accidents have occurred through neglect of this precaution.

C. Hilner (King Williams Town, S.A.).—(1) We think you will find the N.S.U. machine a nicely constructed mount. The workmanship is very good. (2) Quite a matter of opinion which of the two magneto ignition systems is the best. (3) We do not know the other mount (presumably of German make) you mention. (4) You would find that 2¼ h.p. would take you up any hill not exceeding 1 in 12 without pedalling, especially as you are a light weight. (5) If the ignition is the Eisemann system, it works in conjunction with an induction coil. (6) The principal spare parts would be a spare exhaust and inlet, each with springs and cottars complete; a set of piston rings; two good Mica (E.I.C.) spark plugs; a spare belt. All the other information you will find in our "Manual."

### *Alterations to Engine.*

J. W. Edwards (Tunbridge Wells).—You would get only a very small increase of power by having the cylinders bored out larger, and new pistons fitted. It would not be safe to bore out the cylinder more than two millimeters—if that; and the results would by no means be commensurate with the expense entailed. Neither would it be good practice to fit larger cylinders to the same crank-cases, the flywheels not being made to suit. Our advice would be to make the best of the engine as it is, as extensive alterations to secondhand cars never pay. Of course, if you wanted to take a heavier load, you could gear lower; this would mean only going to the expense of a couple of new driving sprockets.

### *Carburetter takes Fire.*

J.D. (Birmingham) writes:—In your reply to G. H. Stockwell, in June 7th issue, you say there is very little risk of a flare up with a spray carburetter. I have a 1903 2 h.p. Minerva with M.O. valve and Longuemare carburetter. On two occasions when trying the machine on the stand I have had the carburetter set on fire, but have been able to extinguish it by smothering it with a rug. If I had been on the road I am afraid it would have burnt everything up. I should be glad to know how you account for this, also the remedy?—We believe this to be the first actual instance that has been brought to our notice. It can scarcely be due to the inlet valve being open to any extent on the firing stroke, and we should rather favour the theory that by running the engine on the stand the combustion head becomes so hot that it ignites a charge whilst being drawn into the cylinder. The inlet valve being, of course, full open, the ignited charge would fire back and set fire to the carburetter. It is evident that you have not experienced this mishap on the road, because the engine does not heat up abnormally. Remedy: Do not run the engine on the stand for more than 30 seconds. Under any circumstances, it is not a good thing to do, as it shakes engine badly.

# BUREAU.

F.W.C. (Kalgoorlie, W. Australia).—(1) The M.M.C. is certainly a fine engine; you cannot get better workmanship. The 1904 Minerva has been improved in the details you mention: although the bearings are short compared with some makes, they wear remarkably well. (2) There is not much in the two positions as far as cooling is concerned. (3) Yes, 2¾ h.p. geared 1 to 5 should suit. (3) You could use 28 by 2 inch wheels and tyres; 2½ inch tyres would be impracticable. (4) If you get the weight down to 135 lbs. you will have done well.

### *Fault in the Ignition.*

W.T.H. (Hull) writes:—I should be glad if you could give me the probable solution to the following. 5 h.p. car, with Longuemare carburetter, runs well at moderate speed; but when the spark is advanced and the car gets up a good speed it runs in jerks. This would seem to point as though too much air was sucked in, and the mixture was too weak to explode. Still, on giving it more throttle, the jerky movement continues. There is no back firing, which gives me the impression that the sparking is all right. Should the air lever on carburetter be adjusted when as little throttle as possible is open, or when the throttle is wide open?—We should certainly advise investigation of ignition. It may be the make and break is uncertain at high speeds. If it is the carburetter it may be a check in the petrol supply. Strictly speaking, the air lever requires regulating directly in proportion to the opening of the throttle.

### *Severe Wear on the Tyre.*

W. Wafford (London, N.) writes:—I experience excessive wear on the back tyre (Dunlop) of my machine. When new it had a non-slipping band vulcanised on, and, in addition, I put on a Smith's band myself, and although I have only ridden about 100 miles, both bands are worn completely through. The front tyre, which was treated in the same way, hardly shows any sign of wear at all. The engine, 2¼in. by 3in. cylinder, with 4¼in. dia. pulley, is geared 1 to 4⅜. It is very fast on the level, but requires pedal assistance on hills. The frame will not allow a larger rim to be fitted on the back wheel. What is the best thing to do with the tyre? Also what is the probable cause of excessive wear? Also would it improve it all round by fitting a smaller engine pulley and give a speed of 25 m.p.h. on the level. The back rim is 19¼in. diam. outside.—The only possible explanation — assuming that there is no question as to the quality of the rubber treads—is that you have a very harsh drive from the engine to road wheel coupled with the high speed you drive at. The large diameter pulley on the engine will not allow of any slip, and you must also remember that the higher the gear the more directly are the power impulses felt at the tyre, causing it to "skid" very slightly at each explosion. This skidding soon makes itself apparent after continuous running. The front tyre has not to take any of the drive, its duty being, in fact, simply to roll along, hence it shows no signs of wear. We should advise a lower gear and slack belt, pulley diameter 3½in.



W. Jeanes (Hull).—(1) No, you must not get the carburetter too hot, or it will be impossible to get a good mixture. It seems to be too close to the engine at present. You require to draw in warm air. (2) The piston rings should move freely, but without any vertical movement in the slots. It is evident that they are a slack fit, and this accounts for feeble compression after the engine has been running. A small amount of side-play in the shaft is not a disadvantage, but any up and down motion is, as it indicates worn bearings.

G.P. (London, S.W.)—(1) No, certainly not worth while trying to convert an oil lamp into an acetylene. (2) The only disadvantage in having accumulator cases made in vulcanite is that one cannot see inside and judge the condition, as can be done with celluloid. They have the advantage, however, of being stronger than celluloid. (2) Yes, it is quite true that some authorities hold the opinion that celluloid has a direct action on the acid of the accumulator and alters its density and composition. But even if this is correct it cannot be a serious matter, from the fact that thousands of celluloid cells are in use.

### *Valve Lifter v. Compression Tap.*

"De Dion" (Leicester) writes:—In your opinion, is a valve lifter much more effective than a compression tap on a motorcycle for starting? In what respects, if any, does it score?—It is pretty generally recognised that the exhaust valve lifter is much better than a compression tap. You can get the engine moving at a good speed with less exertion, and the sudden pull or suction effect on the carburetter causes a good charge of gas to enter the cylinder, so that it fires right away. The objectionable hissing noise from a compression tap is avoided, and much quieter running and speed control in traffic can be obtained.

### *Moisture in the Inlet Pipe.*

"P 1170" (Chuddingfold).—(1) Regarding the condensation of moisture in the supply pipe of your engine, this should not occur if you so arrange the air intake for carburetter that it draws in warm dry air from the vicinity of the engine radiators. (2) Query not clear *re* position of carburetter cone. A rough sketch would be necessary to grasp your difficulty. (3) You must stop if so requested by the driver of a restive horse. The exact wording of the law in this respect is—"Any driver of a car shall on the request of a police constable in uniform or of any person having charge of a restive horse stop his car and remain stationary for so long as may reasonably be necessary."

### *Uses Two Sparking Plugs.*

G.B. (Birmingham) writes:—I should like to tell you that I have recently had an additional sparking-plug fitted in the top of my 4 h.p. cylinder, so that if one breaks down the other will continue to work, and not necessitate stopping the machine to fit in a new plug. I am much puzzled as to the best way to connect the plugs together, that is to say, should I connect in series or parallel? If in series, it seems to me that there would be an extra resistance for the spark to overcome; it would have to jump across two gaps. Please say which method is correct.—The best way is undoubtedly to connect in parallel by joining the terminals of both plugs together. This will give two sparks simultaneously.

T. Firminger (Curbridge).—(1) We should surmise that you had too much heat passing into the carburetter, and this renders it difficult to get a good mixture. You can easily provide an additional air supply in the inlet pipe: it should be as close as possible to the carburetter. (2) The appearance of vapour blown out from the crank-case points to an escape of gas past the piston rings. This would partly account for the loss of power, but the chief reason is bad carburation. (3) No, it is not possible to utilise Leclanche cells for charging accumulators. The Fuller type of battery alone is suitable. The Edison-Lalande battery can be used, but it is not a type often met with.

## *ANSWERS BY POST.*

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

*Thursday, July 7th.*—D. O'Connell (Dublin), B. Walker (Kirkby-Stephen), W. L. Cockle (London), J. W. Clarke (Mansfield), C. L. Willcox (Weston-super-Mare), C. H. Smith (Bournebrook), E. Hughes (Altrincham), J. Hardman (Bacup), N. Pearce King (Monmouth), J. N. Fisher (Blackpool), G. Gibbon (London), J. N. Barnard (Walthamstow), C. Hughes (Horsham), H. Hodkinson (Accrington), A. L. Perham (Barrow), W. H. Heath (Wimbledon), A. Jones (Smethwick), M. Tomson (Fareham), J. F. Whittaker (Manchester), H. L. Davies (Leicester), V. V. Verbi (London).

*Friday, July 8th.*—H. Monro (Leatherhead), J. Ditchfield (Manchester), A. E. Gibbs (Leamington), W. Waylett (Thundersley), N. Boulter (Sheffield).

*Saturday, July 9th.*—A. E. Gibbs (Leamington), W. S. Barnardo (Surbiton), G. Morgan (Pontyclun), W. F. Copeland (Stoke), T. W. Duffield (Clifton), F. Elliot (Chelsea), R. E. White (Milford Haven), J. W. Wiswall (Runcorn), J. A. Taylor (Aston), T. H. Checkley (Bicester).

*Monday, July 11th.*—W. E. Cooke (Alderley Edge), H. R. Dunn (Rothbury), F. Morgan (Talgarth), J. W. Clarke (Mansfield), W. Beeching (Paddock Wood), E. M. Stirling (Bexley Heath), W. Foster (Sevenoaks), A. W. Davies (Willenhall), F. H. Holmes (Wrexham), J. W. Wells (Grimsby), J. McKerrow (Largs), F. Millard (Belvedere).

*Tuesday, July 12th.*—T. Fenton (Sleaford), Osborne Bros. (Lincoln), W. P. Phillips (Llanelly), F. G. Hitch (London), T. Blake (Croydon), W. Playfair (Southampton), G. Stanley (Rawcliffe), A. W. Geldard (Norfolk), W. Browning (London), E. Fairweather (Croydon), V. Turvey (Bournemouth), J. Taylor (Cape Town), J. B. Harris (London, S.W.), F. A. Sharply (Poundstock), G. H. Dawson (Newcastle), G. F. Chapman (St. Leonards), J. Atha (Cape Town), Cleary and Co. (Bagnalstown).

*Wednesday, July 13th.*—J. S. Power (New Ross), A. Wilkinson (Sheffield), C. Black (Upminster), S. Hampton and Sons (Wednesbury), H. F. Jones (Clogher), W. Middleton (Ramsdale), R. E. White (Milford Haven), H. N. Pridie (Wansford), G. F. Flemish (Teignmouth), J. Derville (London), S. Dale (Sutton-on-Sea), F. Boulter (Sheffield).