

The Motor

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INCORPORATING Motor Cycling & Motoring

THE MODERN MOTORCYCLE AS A TOURING MACHINE.

Being a Veracious Account of Some Interesting Experiences.

Somewhat varied experiences with the motorcycle of to-day are often recorded in the columns of your deservedly popular and most interesting paper, and as I have recently completed 5,000 miles on a standard $2\frac{3}{4}$ h.p. Beeston-Humber, I venture to give an account of a tour, with a trailer, which I think may interest some of your numerous readers.

My friend Brown joined me on a recent Saturday afternoon, and after strapping our small bags to the trailer, we started at 6 p.m. with the intention of reaching Shrewsbury, 80 miles away, that evening. The weather was very promising, and although the roads were dusty they were not loose. Leaving the town quickly behind us, we were soon doing a little over the limit, and all went well until near Lichfield, when I heard a scraping noise from the rear. Looking behind, I saw that one of the trailer tyres was punctured. Quickly dismounting, we discovered that the protecting band, which I had had solutioned over the outer cover, was very badly cut, the tyre evidently having been down for some miles. Brown said he thought it bumped, but put it down to the loose, stony roads, which were in a shocking condition near about Lichfield. I blessed him, but as it was his first trailer ride I forgave him.

AFTER ONE HOUR'S HARD WORK

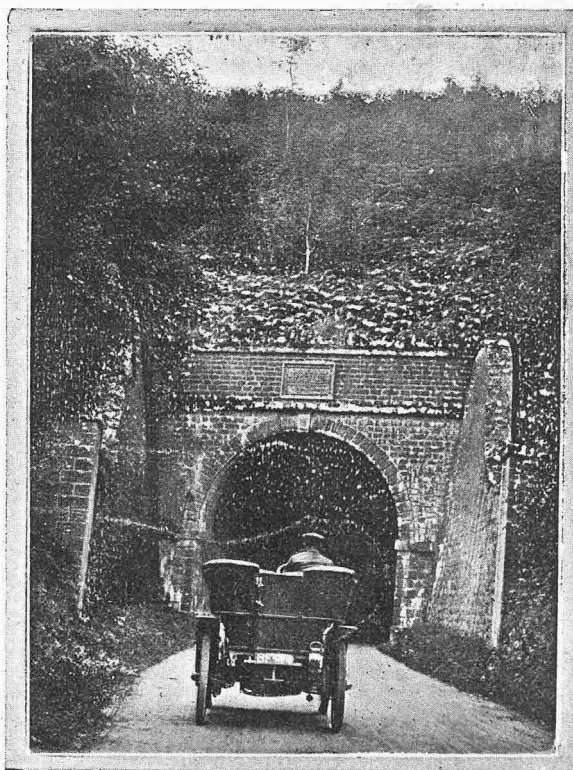
I got the tyre in a rideable condition and we were soon off again. A short stop in Lichfield, and we were quickly moving along at a high speed. We had to make up lost time, and, coming to a long decline, I was letting the engine out (it was almost dark and I had decided to light up at the bottom of the hill), when I suddenly saw some dark forms a short distance ahead. My horn gave out several startling blasts, but the forms did not move, and, to my horror, I saw they were cows. I applied brakes immediately, but too late, and the brutes were turning round when I dashed broadside into one of them. There was an ominous and tremendous

crash, and I was rolling on the ground some yards from the machine, with friend Brown almost immediately on top of me. We were quickly up, and I had visions of a broken up motor and training home, but to our great delight we found that the only damage was a badly bent pedal and crank and a bent horn. How the machine was able to withstand such a collision is beyond me—I expected the frame, forks, and wheels to be broken up. Lighting the lamp, we returned to Lichfield, deciding to get the crank and horn repaired and to make a fresh start on Sunday morning. After a most comforting supper we drank the health of Humber, Ltd., for we had reason to be pleased with their work.

Sunday morning turned out bright and hot, and we made another start about 10 o'clock. Running perfectly, we went by way of Newport to Shrewsbury, then on by Whitchurch and Chester to Liverpool, where we put up at the Waterloo Hotel. We had made very good time from Lichfield, averaging 24 an hour. On Monday morning we took motor and trailer to Humber's fine depot in Bold Street, where I had another band put on the trailer tyre, and under the guidance of Mr. Harry Saunders, the old time racing crack, had a look round the premises.

MONDAY WAS A FESTIVE DAY,

for we had a large number of friends to visit, and for hospitality Liverpoolians stand in the first rank. Tuesday morning came and it was blazing hot—quite tropical in fact—and we were glad to get off again, for we were bound for Rhyll and Llandudno, and were longing to get in the briny. Running on very little gas and the ignition well advanced, we did fast time to Rhyll, where we lunched at the "Queen's," and had a dip in the sea, prior to continuing our way through Colwyn Bay to Llandudno. Here we had a very pleasant time, climbing the Great Orme and enjoying the lovely scenery and cool breezes. Although we were longing to stay, we had a lot



BEAMINSTER TUNNEL.

This is a cutting right through a hill situated on the main road between Beaminster and Crewkerne. The tablet over the main entrance is inscribed thus:—"The public are principally indebted for the erection of this tunnel to the zealous exertions of Giles Russell, of Beaminster, Gent. Commenced Aug. 1831." The photo is by Mr. G. H. Rundle, Yeovil.

**Modern Motorcycle as a
Touring Machine.—Contd.**

of work before us, so on Wednesday got under weigh again, this time the route being right across England to the Norfolk Broads. What a magnificent country we had entered! Indeed the run through the Vale of Conway, Llanrws, Betws-y-coed, Corwen to Llangollen was

SOMETHING TO BE REMEMBERED FOR YEARS.

We had some stiff climbs, but the engine was giving remarkable power and we made very fast running right on to Shrewsbury, where we did full justice to our lunches. Leaving this quaint and most interesting old town, we went by way of Bridgnorth, encountering a terrific climb over Wenlock Edge—so steep that we had to push the motor and trailer; this is no joke when it is 130° in the sun; on we went to Kidderminster and Worcester, comfortably passing the night at the "Bell" in the latter town. This was our biggest day, and so far we had been running splendidly, not a misfire or a forced stop since the Lichfield puncture. We started early on Thursday morning for Stratford-on-Avon, and when nearing our destination the engine seemed to lose some of its power. Finding a motor garage, we left the machine to have the accumulators re-charged and the valves ground in. Stratford and its beauties are too well known to call for any description from me, and we had a very enjoyable time there, the boating on the Avon being particularly good.

Calling next morning for the machine, we found the accumulators had been re-charged and replaced in the box, but on trying the engine could not get an explosion, I examined the wiring up of the accumulators and found it all wrong. This was soon rectified and the engine running; but again something was wrong, as when the ignition was advanced the engine slowed down. Enquiring of the motor expert (?) I found he had taken the trouble to clean the wipe contact, and in doing so had taken the fibre ring off. This he had replaced in such a manner that the timing was all wrong. However, I put this right, and without waiting for the valves to be ground in we got on our way again, calling at Warwick, where the Castle was inspected, then on to grand old Kenilworth, where we made quite a long stop, and from there to Coventry. Here we had lunch while Humber's put the valves in order. After having a look round their splendidly-equipped works, we

proceeded once more on our journey and soon found that we were getting more power than ever.

RUGBY WAS PASSED IN VERY FAST TIME,

and on we went to Northampton, where I called for a fill up of petrol and lubricating oil. I could not obtain Price's, and had to be content with some "just as good." Making our way through Wellingboro', Thrapston, and Huntingdon, we came on very loose, flinty roads, and soon had one of the trailer tyres in trouble. A quick repair, and on again to Cambridge and Newmarket, where we enjoyed the hospitality of the "White Hart." Early Sunday morning we were awakened by the clattering of hundreds of horses going to the Heath for their morning gallops. I enjoyed the sight very much; they came by in long strings almost every minute, their coats shining like satin, and every horse bestrode by a diminutive specimen of a boy. After a glance over the machine we set out for Oulton Broad, and were quickly in trouble again with the trailer tyres, the flints being very bad. More repairs and we reach Bury St. Edmunds, the machine now lacking that sharp turn of speed it had been showing from Coventry. As we got further on the loss of power was very noticeable, but the country being flat we still kept up a fair average. Harleston was reached in good time, only to be delayed by another puncture, and then on again through Bungay, Beccles (another puncture), to Oulton Broad. During the last 20 miles we made rather slow progress, but I partly put this down to the tropical heat. We spent two days at Oulton, boating and fishing (I won't give any weights), and then decided to visit

THE GOLDEN SANDS OF YARMOUTH,

where we spent the rest of the week, having a real good time, and getting as brown as coffee berries. While in Yarmouth I had the exhaust valve ground in. I found it was caked up with the burnt residue of the common oil I bought in Northampton, which had been the cause of the loss of power. I shall in future buy nothing but a well-known brand of oil. Our holiday was now fast drawing to a close, and on Sunday morning we started for home, feeling very loth to leave Yarmouth.

We had six punctures in the first 30 miles, causing much tedious, thirsty work; the trailer tyres were now getting very bad, the canvas showing in several places. However, a few boxes of antiseptic rubber tape very greatly improved matters, and we got going again in tremendous style, passing through Dereham, Swaffham, King's Lynn, Wisbech,



THE MOTOR-BICYCLE "GORDON BENNETT."

1. Rignold, an English competitor, at Dourdon Control.

2. Demester, the winner, about to leave St. Arnault.

**Modern Motorcycle as a
Touring Machine.—contd.**

to Peterborough, where we ran into a heavy thunderstorm. We could not wait to shelter as Brown had to catch a train home, so we continued on our way, encountering very bad roads and getting wet through in spite of rain-proof clothing. As we neared Uppingham we got on very high country and seemed to be within

A STONE'S THROW OF THE CLOUDS.

The storm was now at its height, and we were very thankful to get through it safely and sound. In due time we reached home, and I said good-bye to Brown, after having had what we both agreed was our best holiday. When I come to review the actual trouble experienced I find the machine, engine, and accumulators were faultless, the trailer tyres being really the only trouble. To be able to do this distance over a very mixed country, with a 12-stone passenger, must surely prove the extreme reliability of the modern motorcycle. I have now done over 5,000 miles since Easter on this machine, and I have never been stuck up on the road. I have nothing but praise for the chain drive,

which has far exceeded my greatest expectations. I have not had the least trouble with the chains, and beyond tightening several times and oiling them, they have had no attention whatever.

**THE FREE ENGINE IS UNDOUBTEDLY ONE OF THE
GREATEST IMPROVEMENTS OF THE YEAR,**

and gives the advantages of a car, making traffic riding much easier and safer and enabling you to start with a trailer on almost any hill in the country. The machine is certainly heavy, I dare say it weighs 160 to 170 lb., but I have never found it cumbersome. My Palmer tyres are, I think, as perfect as tyres can be; I have had two punctures in 5,000 miles, each through a large nail; otherwise, they have never been touched with a pump, and the shocking flinty roads of Norfolk have not made the least impression on them. The front tyre still has the pattern as new, the back one being just worn off; this is all in favour of the chain drive, called by some the tyre scraper—by me, the only perfect all-weather drive on the market. I am now waiting for a really good two-speed gear—which would make trailing even more enjoyable in hilly country. I trust that the manufacturers will have something good in that line at the coming shows.

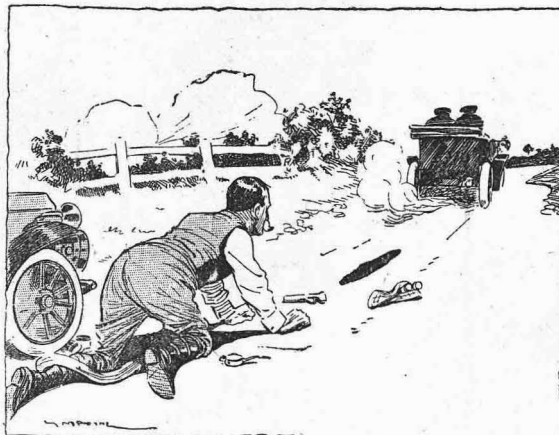
A. B. C.

A MOTOR KITE.

Conquest of the air on the "heavier than air" theory is, according to the opinion of many competent persons, the only practical solution of aerial navigation. Numerous experiments, interesting to the highest degrees, have confirmed this idea, and we may expect that the ever-increasing number of investigators will finally succeed. Even at the present time M. Archdeacon is making an effort to stimulate the zeal of inventors, owing to the remarkable results obtained by Messrs. Chanute, Langley, Wright, Fisher, and Archdeacon, and this endeavour is deserving of support. From all quarters new plans are making their appearance, which promise a number of very interesting experiments before long. M. Felix Faure (who unostentatiously chooses to call himself M. Remy) is, like many others, anxious to contribute his quota to the rising edifice. It is about his experiments that we speak. Basing his idea upon the principle that the problem of aerial navigation cannot be solved without first dealing with the three phases, elevation, propulsion, and soaring, the inventor has hitherto restricted himself to researches regarding the best means for rising. Various types of propellers were successively put to the test, alterations of which gradually increased the efficiency. The first apparatus invented in 1901 comprised six propellers forming a wheel. M. Godard, the well-known aeronaut, immediately placed his experience and workshops at the disposal of the investigator, and himself made the first test by fixing a bicycle pedal under the apparatus in order to estimate the decrease of load produced by rotation of the propellers. It was three kilogrammes (6½ lb.) with six propellers, seven kilos. with four, and 14 kilos. with only two. Thus, there was no need to increase them, and the result was the adoption of two. From this to replacing M. Godard's idea by a petroleum motor was but a step, and this "lightened" the apparatus by 20 kilogrammes. It was then that the propellers underwent a change based upon scientific data, and in the month of September, 1902,

furnished with two large wings, the machine was able to lift 30 kilogrammes; its own weight was 72. The present model has an electric motor of some 9 h.p., constructed specially with a view to the experiments to be made by the "Société Postel Vinay." The axis of the motor, which is fixed vertically, terminates at the top in two wings, 1.10 metre long, and a surface of 0.40 sq. metre each. They are mounted at the end of a tube which surrounds the axis for a certain length, and are moved by toothed aluminium gears enclosed in a case, which rotate in opposite directions to the first at half less speed; their surface is 0.60 sq. metre.

To calculate the lightening of the kite in motion, it was suspended by a steel rope attached to a beam in the roof of the Levallois Perret Sector, where it is now. The loose end of the rope was weighed to balance the kite. Several times it rose to a height of 2 metres, thus placing a weight of about 85 kilogrammes on the ground. The small propeller rotates at about the rate of 400 revolutions and the large one 200. They are maintained rigid during movement by steel ribbons fastened to the support instead of the usual ropes, which were found not strong enough. These propellers offer a very great resistance to the air and produce a strong air current, which keeps people at a distance. It was also noted that flapping of the lower wings has no effect on efficiency. What future is reserved for this machine? It would be very rash to predict a conquest of the air. It is merely an embryo flying machine which will be improved by study of means for soaring and propulsion. However, it is an established fact the "Auto-Volant," as it is styled, can rise. While awaiting the solutions of propulsion to soaring, we must sincerely congratulate the inventor, M. Faure, as also Messieurs Godard and Perret, engineers in the "Société Postel Vinay," who shared in the work, and seem willing to continue to do so.—Translated from "LA NATURE."



A TRUE SPORTSMAN.
MOTORIST (who has been knocked down by passing car): "By Jove! how beautifully silent that car runs."

THE MOTOR VOLUNTEER CORPS AT THE ARMY MANŒUVRES.

In view of the prominent part played by automobiles in the present and last year's manœuvres, it is difficult to understand how it was ever possible to conduct operations satisfactorily previous to their advent. Higher praise than Lord Roberts', when, in his memorable speech to the Motor Volunteer Corps at the termination of last year's manœuvres, he assured his hearers that "without their assistance it would have been impossible to carry out the manœuvres," is hardly possible, and, when it is considered that these words were addressed to about 100 motorists, who had been distributed among some 50,000 troops, their importance will be realised.

Although this year the combatants were fewer, numbering only some 18,000, the novel nature of the operations attracted unusual attention. But, from the motorists' point of view,

THEY ASSUMED UNPARALLELED SIGNIFICANCE,

for this year heralded the advent of an entirely new departure in warfare—the motorcyclist combatant. The experiment had been determined upon early in the year, and for the purpose six motorcyclists had been allotted to the rival Red and Blue commanders. The Red (defending) motorcyclists bore a white badge round their caps, the Blue (invaders) bore no distinguishing badge. All were armed with the new and recently issued rifle, which has a shorter barrel than the old Lee-Netford, while its range is, if anything, greater. The rifle was to have been carried slung, similar to the method adopted by mounted infantry, but some members found it more convenient to attach it to the machine, where the shape and disposition of tank and engine permitted it.

The remainder of the Corps, both car-drivers and motorcyclists, were under canvas in their own camp at the Meance Barracks, Colchester. All were neutrals, being distinguished by a white badge round the arm. The cars were employed for the conveyance of umpires, foreign attachés, and other distinguished officers, while the motorcycles were used for the carriage of messages from one umpire's headquarters to another, and generally establishing communication where necessary.

For this purpose a certain number were always in attendance upon the cars, and it was a sight well worth seeing when a 20 h.p. car came along at full speed, closely followed by a little 2½ h.p. motor-bicycle. When the relative cost of the two vehicles is considered, one cannot refrain from admiration at the possibilities of the "small fry" of automobilism.

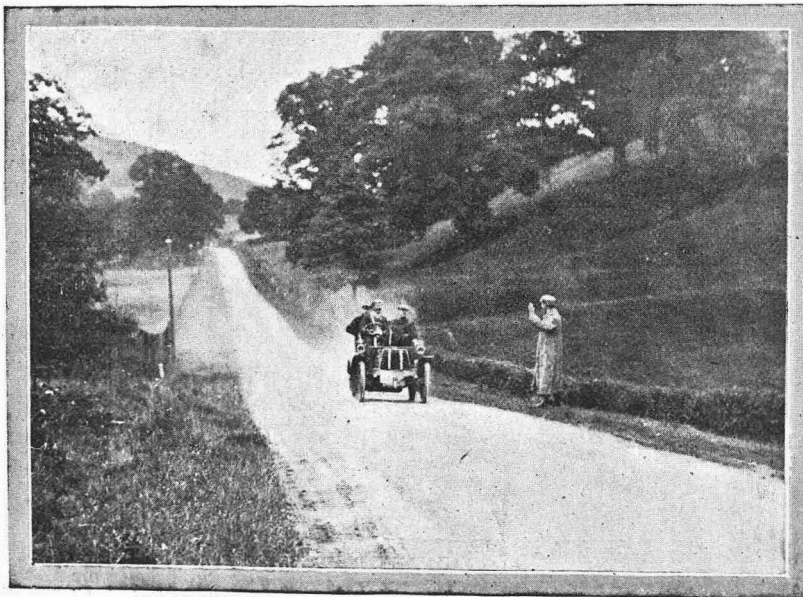
The machines in use represented nearly every well-known type. Taking the cars first, a 40 h.p. Mercedes and two 18-28 h.p. were quite capable of giving the Army a fair impression

of speed. A 20 h.p. Clement, a 30 h.p. Wolseley, a 20 h.p. Thorneycroft, two 20 h.p. Peugeots (one belonging to Colonel Mayhew), a 12 h.p. Mors, two 28 h.p. Daimlers, two Wilson and Pilchers (one of them a six cylinder), a 24 h.p. Corre, and a 16 h.p. Napier might also be considered as capable of giving a good account of themselves. These cars alone, when ranged together, presented a sight unparalleled in the history of military automobilism, but the smaller cars must not be overlooked. These included, among others, a three-cylinder Minerva, several De Dions, a Star, and a Brush, as also a new four-seated Cadillac.

As high speeds were, for a great part of the time, out of the question, the smaller cars were equally capable of doing well. Here it may be mentioned that too much praise cannot be given to the members of the Corps for the uniformly considerate manner in which they drove throughout. Bearing in mind the annoyance caused to the troops by the passage of a swiftly-moving car raising clouds of dust in its wake, drivers were always careful to pass men and horses slowly. The same, however, cannot be said of many privately owned cars, which often drove past in a most inconsiderate manner. There is good reason to relieve that the military authorities are taking action in the matter to prevent a recurrence of the nuisance.

Just as high powers predominated among the cars, so among the motorcycles. Easily first was a 6 h.p. Chase, belonging to Major Bennet-Stanford, who also drove his 20 h.p. Peugeot. The Chase was a fearsome monster, easily capable of 55 miles an hour! and a short trial of this machine was enough to satisfy the most fastidious speed merchant. A 3½ h.p. Bat, with water-cooled head, and another Bat were also capable of great speeds, as likewise a 3½ h.p. Excelsior, a 3½ h.p. Minerva, and several 3 h.p. Quadrants. Right at the other end of the scale was a 2 h.p. Clement-Garrard "Torpedo," which proved quite efficient. Medium powered machines included a 2 h.p. Minerva, a 2½ h.p. Daw, several 2 h.p. Quadrants, and a 3 h.p. Lagonda tri-car (the only tri-car running). A 3½ h.p. Rex must also not be forgotten. The rider of this had a bad side-slip,

and completely smashed his contact breaker, besides hurting himself somewhat severely. However, he pluckily procured a fresh contact breaker, repaired his machine, and a few days later was again on duty. Here it may be said that a few motorcyclists escaped side-slips. As it rained during practically the duration of the manœuvres, the roads, churned up by the passage of troops, horses, and guns, were in an indescribably dangerously greasy condition. As for Colchester itself, the streets are chiefly composed of stone setts, intersected by tram lines. What this



"Cuclomot" greeting a 7 h.p. Little Star on the Malvern Hills.

The Motor Volunteer Corps.—Contd.

means, when covered with mud and slime, can best be imagined. In parts it was hardly possible to walk, so greasy was the road. Moreover, the streets are all either up or down hill. Fortunately, there were no serious casualties to the cyclists themselves, but tales of broken pedals, bent cranks, and other troubles caused by side-slip were common. Serious mechanical troubles included a broken crank-shaft and several seized engines. Fortunately, the town contained several good engineers, capable of even making a new crank shaft, so in nearly every case a repair was possible. Tyre troubles, on the other hand, were comparatively rare, both among cars and cycles. This may be partly attributed to the wet weather and partly to the absence of sharp flints. Horse-shoe nails, as might be expected, after the passage of cavalry and guns, provided several punctures, as also loose pieces of iron and the huge spikes used for securing iron rims to artillery wheels. One of the tyres of the 16 h.p. Napier had a bad burst, but, in many cases, the tyres, although badly cut about, stood up, a fact which speaks well for their quality.

A HUGE STOCK OF PETROL

and different qualities of lubricating oil were provided at the camp at Colchester, and the accommodation for the motors was excellent, a long gun-shed being provided for the purpose. Assistance was also available for cleaning and washing down, while, in many cases, car drivers brought their chauffeurs with them. In fact, the arrangements within the camp generally were exceptionally good, and the mess marquee was universally acknowledged to surpass anything on either side. The catering was excellently carried out, and every possible convenience provided, not forgetting a plentiful supply of literature.

Each member had a separate tent, fully equipped with tent furniture and floor boards.

Reveille sounded at 3 or 4 a.m. as the case might be, and the members would assemble at the breakfast table about 4.30, or earlier. The orders for the day were invariably issued on the previous night, so each member would know his allotted duty.

In the majority of cases, the cars and cycles would report at their destinations about 5 a.m., and would then be kept busily employed for the rest of the day, returning to the camp towards evening. Dinner was at 8 p.m., and was occasionally attended by visitors from other camps. A jollier mess never existed, the experiences of the day alone providing a never-ending fund of merriment. After dinner, the members were usually glad to seek their beds, and snatch a few hours' sleep before reveille, first, however, studying the orders for the next day.

So much for the neutrals in camp at Colchester. The combatants, however, were naturally on the move all the time, according as their respective forces advanced or retreated. They were, therefore, compelled to find their own accommodation, and fare as best they could. Add to this that some were occasionally on duty for nearly two days on end with little or no sleep, in pouring rain all the time, and riding over practically impassable roads, often pushing the machine for miles where it was impossible to ride, snatching a mouthful of food where they could get it, and then say that manœuvres are "play"! The only wonder is that many came through so well; but the same high spirit of duty seems to have animated all, and by sheer determination to get through with despatches or information they nearly always succeeded.

It can easily be imagined that

THE INTREPID TWELVE HAD MANY EXCITING EXPERIENCES.

Several were captured by the enemy's mounted scouts, but one or two escaped. In one case a neutral ventured out without his distinguishing badge and was taken prisoner. As he was unable to prove his identity, he was not released till some hours later.

The method of capturing a motorcyclist was invariably the same. A trooper would spring out from each side of the road, and the horses completely blocking the way, the motorcyclist would be compelled to apply the brakes in order to avoid a collision. In one case a motorcyclist thus captured was ordered to accompany his captors, two of General French's scouts. His refusal evidently puzzled the captors, who were at a loss to take him along, even if they abandoned the machine. Meanwhile, however, the advance guard of the Red force hove into view, and the horsemen were compelled to release their prisoner and fly themselves in turn. Realising that the tables were turned, the motorcyclist went after them; he dashed between the galloping horses, and by swerving from side to side of the road endeavoured to head them off in order that they might fall into the hands of the Red force. As, however, the troopers were firing at almost point-blank range at the motorcyclist it is doubtful whether the manœuvre actually succeeded, although, of course,

THE PRANCING HORSES AND FLYING MOTORCYCLE

were hardly conducive to straight shooting.

All the motorcyclists were this year equipped with a smart and serviceable great coat reaching to the knees. This was found a most efficient protection from the weather, as well as being delightfully warm.

Owing to the heavy roads, which often degenerated into mere earth tracks, the higher powered engines revealed their advantages, for it was possible to keep moving on a 3½ h.p. where a 2 h.p. would stick. Belts gave extraordinary little trouble. The Rev. Lloyd-Evans, a motorcyclist member, rode a 4 h.p. chain-driven machine with a free engine. This member had an exceedingly narrow escape of being seriously injured, if not worse. Riding back to camp one night he was run over in the darkness by a car, which, however, did not stop, the driver possibly being unaware of the accident, as the night was so dark. The machine was much damaged, and the rider thrown into the ditch, fortunately sustaining no worse injury than some bruises and a severe shaking.

It should be understood that

HIGH SPEEDS ARE NOT ENCOURAGED IN THE CORPS.

even when roads are clear. Nevertheless it is often necessary to cover a large area in a comparatively short space of time, and on such occasions the rule is relaxed. The Corps numbers some exceedingly fine drivers among its members, and it is greatly to its credit that no accident to the distinguished officers entrusted to its care is to be recorded.

Two tricycles were in use during the manœuvres—a 2½ h.p. Singer and a 3 h.p. Dennis—both of which ran well, and proved their superiority in grease. On the other hand, both tricycle and tri-car have not the same facility for slipping past large bodies of troops as the motor-bicycle, while they are also more difficult to turn on narrow roads. Nevertheless, this class of machine has certain advantages for military work, not the least being its increased carrying capacity, enabling the military motorcyclist to be entirely "self-contained" in so far that he can carry a complete equipment and kit, including, if necessary, a waterproof bed. In the absence of transport and supply this would be no mean advantage. It is therefore to be hoped that a certain number of three-wheelers will always remain on the roll of the Corps.

Many motorcyclist members, knowing from previous experience of manœuvres the large amount of night riding called for, had provided themselves with

LARGE AND POWERFUL GAS LAMPS,

several having the latest types, with separate generator. In nearly all cases these appeared to answer well, although it was a common complaint that their capacity was not sufficient for an all-night ride of eight hours or so. This was rather inconvenient, as facilities for obtaining a refill of carbide at 2 a.m. in a desolate Essex lane are obviously wanting. The only remedy would appear to be to carry a reserve supply of carbide and water in the tins sold for the

The Motor Volunteer Corps.—Contd.

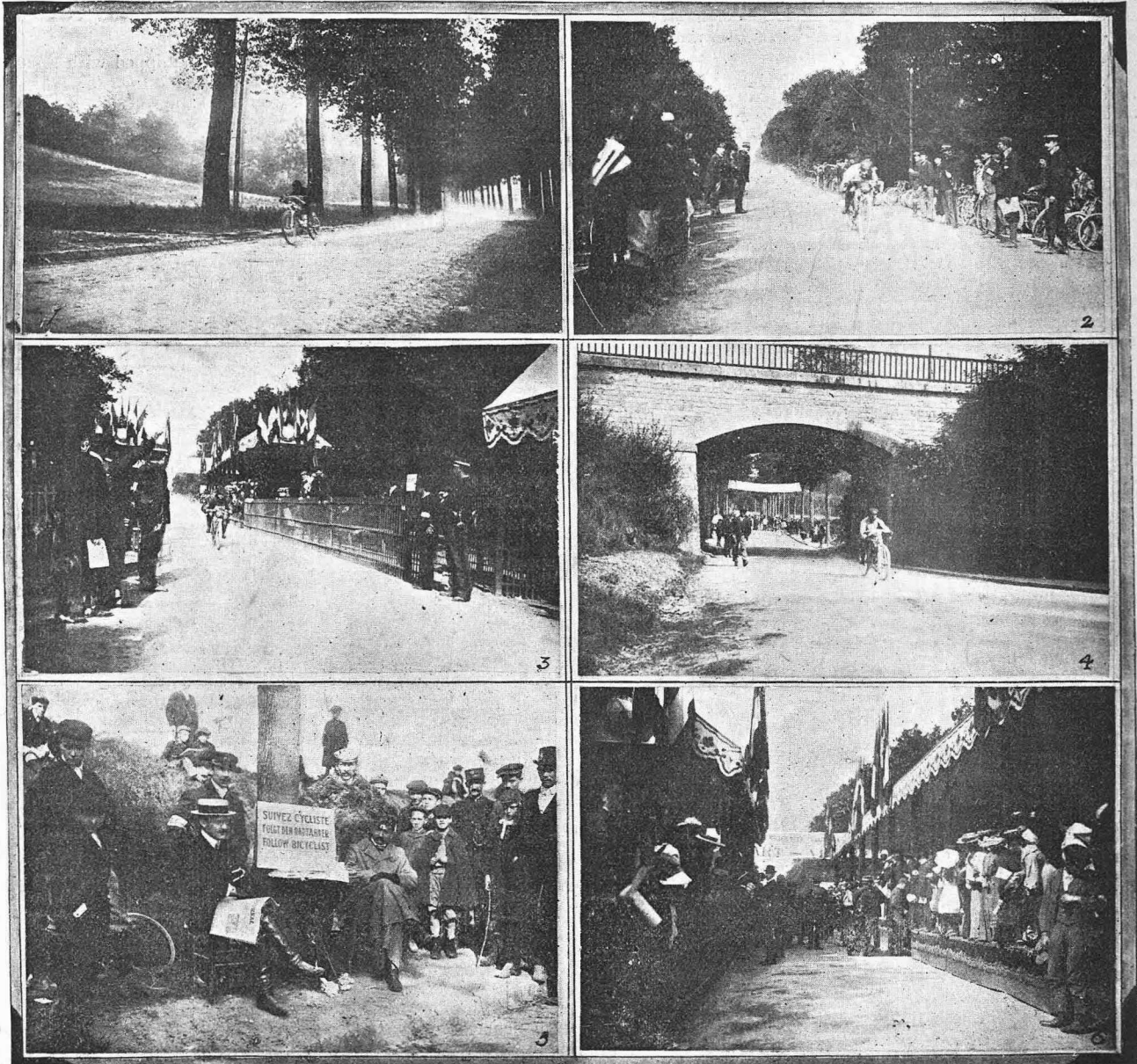
purpose, but even so it is far from pleasant to refill a lamp in the dark on a pouring wet night.

At the conclusion of the manoeuvres the Corps was reviewed at Clacton by the Inspector-General of the Forces, H.R.H. the Duke of Connaught, who expressed his appreciation of the manner in which the Corps had performed its duties. Cars and cycles then filed slowly past, and the members were then dismissed.

As we have said, the manoeuvres have once again demonstrated the great utility of automobiles as instruments of war, and it is to be hoped the War Office authorities will henceforth allow them to play more prominent parts in military operations than they have done in the past.

Berlin Exhibition for 1905.

An international automobile exhibition will be held in Berlin next year from February 4th to 19th. The exhibition, which is being organised by the German Automobile Club and the Association of German Motor Manufacturers, Cannstatt, will include motorcars for personal conveyance, also automobiles for ambulance, fire brigade, military purposes, etc.; motorcars for transporting heavy loads, etc.; motorcycles; motor boats, as far as space permits, in regard to width, height, and length; parts of motors, wheels, pneumatics, equipment, tools, costumes, literature, drawings, maps, etc. Information respecting floor space, entry forms, terms, and all other details, may be obtained on application to the International Exhibition, 1905, Sommer-strasse 4a, Berlin, N.W. Already interest is being evinced in the exhibition, both by the public and the trade, and strong hopes are entertained that it will be opened by the Emperor.



FURTHER SCENES OF THE INTERNATIONAL MOTOR-BICYCLE RACE.

- 1.—Toman, the Austrian, going at full speed on his Laurin-Klemen'. 2.—Lamberjack, the French competitor forcing the pace with his Griffon. 3.—Demester (Griffon) winning for France. 4.—Another snap of Toman
- 5.—A control: notice the instructions in French, German, and English. 6.—View of the stand near Dourdan

The Motor
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OPINION.

The City of London and Speed Limits.

London motorists are at the moment much perturbed at the application of the City Corporation for a speed limit of ten miles an hour for automobiles driven within the City boundaries. The application was laid before Mr. E. P. Burd, a Local Government Board inspector, at the Guildhall on Tuesday last, and a careful perusal of the arguments advanced by those in favour of its adoption, and by those who supported the Motor Union in opposing it, forces one to wonder how it was possible for such a proposal to be conceived, except it be born of sheer prejudice and antipathy to the automobile and everything appertaining to it. From the evidence which was brought forward it was conclusively proved that the section of the Motor Act which provides that "if any person drives a motorcar recklessly or negligently, or at a speed or in a manner which is dangerous to the public, having regard to all the circumstances of the case, including the nature, condition, and use of the highway, and to the amount of traffic which actually is at the time, or which might reasonably be expected to be, on the highway, that person shall be guilty of an offence," had been sufficiently broad to enable the authorities to adequately cope with and control all forms of motor traffic. Indeed it was admitted that since the Act had been in operation not a single motor accident in the City had been reported, and what is more remarkable, the police have yet to be called upon to prosecute under the section we have quoted. In all conscience, it would seem that the powers already wielded by the police, and the exemplary conduct of motorists when driving in the City of London, were enough to preclude such an unwarrantable application as has been put forward by the City authorities, who, as a backer, have such an august personage as Capt. Nott Bower, the Commissioner of Police. The position the framers of the application have taken up is altogether inexplicable, for, apart from the wide and complete authority which is already given to those whose duty it is to regulate the mighty London traffic, it is only possible for the cars, as Mr. Moresby White pointed out at the enquiry, to be timed over the very streets where a faster pace than ten miles an hour is safe; for where the traffic is thick and congested they could not travel fast, and an automatic check is therefore provided. As a matter of fact, there are only two or three places in the entire City where accurate timing could be accomplished, such as, for instance, in the wider parts of the Embankment—and the police, with all their vigilance, have not yet had occasion to charge a motorist for a breach of the Act in this thoroughfare, or, as we have said, anywhere

else within the City area. Accurate timing, under any circumstances, is the work of an expert, but an attempt of the performance in the City of London by a police officer would be ludicrous in the extreme, were it not pathetic. The absurdity of such a limit is further emphasised when we point out that it was authoritatively given out at the enquiry that cabs and other vehicular traffic of the horse type had been timed to exceed a speed of fourteen miles an hour—one in fact fifteen and a half miles. It is pretty clear to any but the biased mind that the imposition of such a limit is altogether unnecessary, and it is to be hoped that the Local Government Board, who have postponed their decision on the matter, will realise this, and refrain from subjecting motorists to needless and ridiculous restrictions.

The Light-weight Motor-bicycle on the Road.

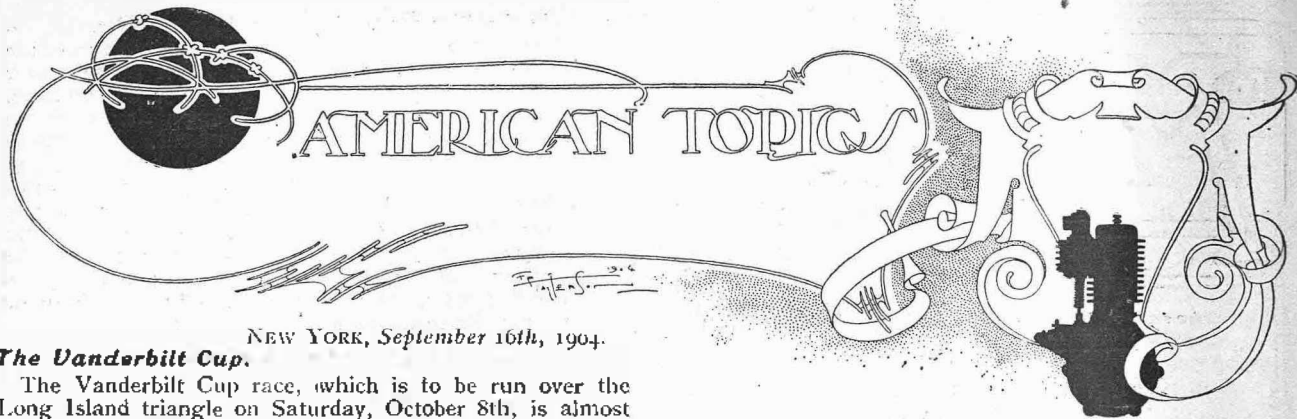
At the present time our 72 lb. motor-bicycle is in daily use with a view of testing its behaviour under average riding conditions. Up to the time of going to press it has covered a distance of well over 400 miles, and every screw and nut about it is as tight as at the start, despite the fact that it has been ridden over many miles of some of the roughest pavement it is possible to encounter. As to its hill-climbing powers, we are convinced that it will take nine out of ten gradients to be met with in an average day's ride without help—unless, of course, one rides in a mountainous district, such as Cornwall or Wales, where gradients of 1 in 6 are occasionally met with. Even these, however, would be negotiable by our light-weight, without pedalling, provided it were fitted with a two-speed gear. This addition would at the outside only add 6 lbs. to the total weight. By the time we have run the machine 1,000 miles it will have undergone a substantial test. So far it has proved itself to be fast, very economical in oil and petrol, and a most easy mount to manipulate in traffic.

Motoring "Schools."

For some little time advertisements have been appearing in the columns of the daily papers inviting people to take tuition in the practical construction, management, and driving of cars. Such advertisements naturally attract coachmen, grooms, and young fellows anxious to become au fait with the new mode of road locomotion, and on application being made the candidates are promised a course of lessons in mechanism and driving in return for fees ranging from five to seven guineas. Judging by the complaints which are reaching us, the lessons in mechanism consist in but the scantiest pulling down of certain parts of a cheap, out-of-date car—generally the engine and carburettor only, the gear-box being uncovered, and no more—by a class of three or more pupils, an hour being about the time devoted to a "lesson." The driving "lessons" consist in the car being driven through the traffic by the teacher, who allows each pupil to take the wheel for about ten minutes up and down a quiet road. The teacher himself is sometimes a young fellow who has never seen the particular make of car used, and who, therefore, requires tuition himself. Naturally at the end of the course the pupil has learnt little or nothing—unless it be a little wisdom. We hope to say a good deal more about these advertisers and their methods, but in the meantime we warn the public against parting with their money without the fullest guarantees of an adequate return. There are respectable schools—such as those conducted at the Battersea Polytechnic—and the pity is that the genuine classes are all very full. It is increasingly evident, however, that there is a rapidly growing demand for proper tuition, and we shall have pleasure in giving publicity and support to institutions upon being furnished with evidence that they are properly conducted.

CORRESPONDENCE.

We are in receipt of a very large number of letters for insertion under the heading of "O.P.V.," and although we devote five pages to this section this week, a number of pages remain over. We are anxious to give every reader a chance, and shall be glad if our correspondents will be as brief as possible.



NEW YORK, September 16th, 1904.

The Vanderbilt Cup.

The Vanderbilt Cup race, which is to be run over the Long Island triangle on Saturday, October 8th, is almost the sole topic of conversation in gatherings of automobilists. The preparations for it, both on the part of the promoters and prospective competitors, are being carried forth rapidly and completely. So great is the demand for seats on the official grand stand at Westbury, that that structure will be several times larger than first planned, and even then only those who apply early will be accommodated.

Interest in the contest has been increased by an announcement by Norris Mason, on behalf of the Michelin Tyre Company, of special prizes offered by that concern to the first five finishers, providing they use a well-known make of foreign tyre. These prizes will be \$1,000 to first, \$500 to second, \$250 to third, \$150 to fourth, and \$100 to fifth.

Under the conditions of the contest the tyres, as well as all other parts of a competing machine, must be made in the country represented by the car. American machines, therefore, will be required to be fitted with American tyres, Italian machines with Italian tyres, and so on.

Two of the first foreign cars entered for the race arrived here yesterday. They are the 90 h.p. F.I.A.T. cars owned by Alfred G. Vanderbilt and William Wallace, of Boston.

These machines, which were constructed for the International Cup race in Germany, are particularly powerful in appearance, long of wheel base, low, and with huge bonneted engines. They are finished in white, with red leather seats, and embrace the ordinary F.I.A.T. features.

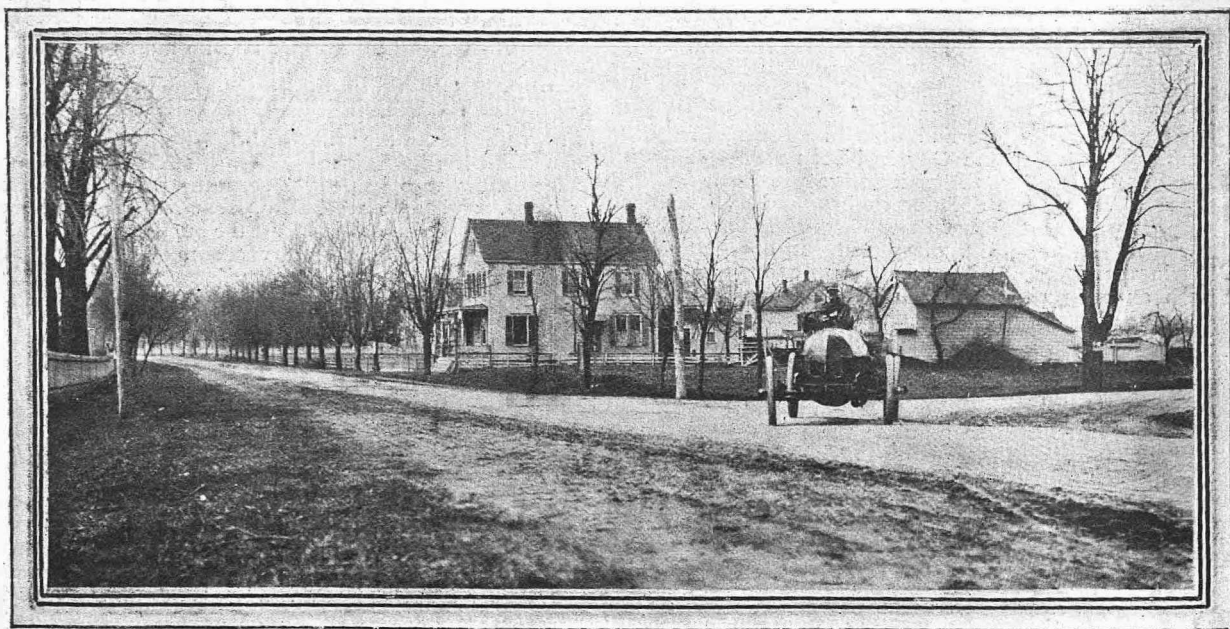
The Vanderbilt F.I.A.T., which is to be driven by Paul Sartoria, has shown a speed of 90 miles an hour in Europe,

though on the Long Island course it is not expected to go much beyond 60 miles an hour in the stretches. William Wallace will drive his own car. The full list of entries is as follows:—

	Car.	Driver.	Entered by
United States	60 h.p. Pope-Toledo	Webb	Col. A. A. Pope
	60 h.p. Pope-Toledo	Lyttle	Col. A. A. Pope
	30 h.p. Gray-Wolf	Schmidt	Packard Motor Car Co.
	75 h.p. S.& M. Simplex	Croker	Frank Croker.
	35 h.p. Royal Tourist	Tracy	C. A. Duerr
France	90 h.p. Panhard	Tart	Panhard & Levassor
	90 h.p. Panhard	Heath	Panhard & Levassor
	90 h.p. Panhard	—	Panhard & Levassor
	80 h.p. Clement-Bayard	Clement	Albert Clement
	90 h.p. Renault	Bernin	W. G. Brokaw
	80 h.p. De Dietrich	Regan	R. E. Jarridge
Germany	60 h.p. Mercedes	Stevens	S. B. Stevens, Jr.
	60 h.p. Mercedes	Hawley	E. R. Thomas
	60 h.p. Mercedes	Mensel	George A. Arents
	60 h.p. Mercedes	Werner	C. G. Dinsmore
	60 h.p. Mercedes	—	Isadore Wormser
Italy	90 F. I. A. T.	Wallace	William Wallace
	90 F. I. A. T.	Sartori	Alfred G. Vanderbilt

Reckless Racing.

Scores of New Yorkers, hundreds of Boston people, and thousands of Providence folk recently witnessed one great day of automobile racing at Narragansett Park, Providence,



A stretch of the Vanderbilt race course. Tracy who will be one of the competitors in the contest, on a 35 h.p. Royal Tourist is seen indulging in a trial spin.

American Topics.—
Contd.

R.I. Record after record went by the board, and race after race was run off without an accident which was at all serious. Tyres came off the racing machine while going at a mile a minute or under, but the nerry riders, A. C. Webb and Louis Ross, held to their machines and went right along to the finish. Ross, in the steamer of his own make, made a reputation for himself by continuing to drive in one race after a tyre had come off at two miles. He had eight more to go, and travelled right along, losing a second tyre on the outside in the ninth mile, and then finishing only to drive another fast mile for good measure. Ross, in his "tomato can" (as some called it, because it was made of tin), stood, or sat, in imminent danger of having his throat cut by the tin edge if by any chance the car happened to swerve and strike the fence.

The Motor in War.

The automobile for military purposes has received a most emphatic endorsement. Major-Gen. H. C. Corbin unqualifiedly endorsed the automobile and its practicability for war purposes in an interview. He had an opportunity to watch, as Commander-in-Chief, the automobiles in use at Manassas, and his indorsement praises White Steam cars highly, as will be noted. Gen. Corbin says: "The usefulness of the White Steam cars has been fully demonstrated. In fact, they seem to be able to do everything except climb a tree, and I am so enthused regarding their performances at these manœuvres, that I feel they would almost do that. The roads in this section of the country are the worst I have ever seen, but it does not seem to bother these cars in the least. Germany and France have adopted automobiles to some extent for army purposes, and, to my mind, there is little doubt now of their utility for the purpose, judging by their success at Manassas." The headquarters authorities will, no doubt, now give the automobiles wider opportunities in military matters.

The Adaptability of the Automobile.

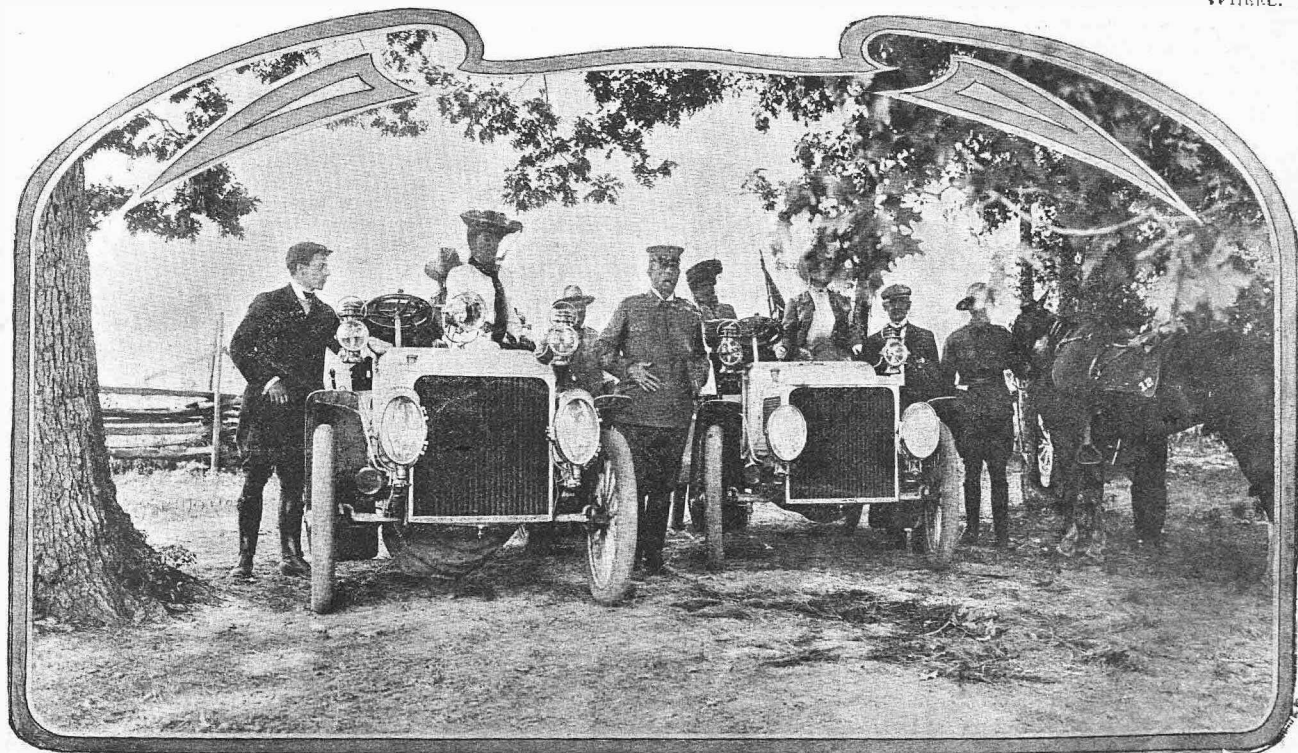
Adelphi College, in Brooklyn, believes that it has solved the problem of transportation of pupils to and from school. Six automobile omnibuses, supplied with heating apparatus, two large steam gasoline cars and three gasoline touring cars have been provided for use this fall. The experiment was first attempted last winter with two cars. The horse stage had proved ineffective in the severest weather, and when it could be used the children had been obliged to remain long in a cold vehicle. The electric street cars at school time were too crowded for the youngest children to board with safety; so the expediency of the motorcar was tried, and with great success.

A Fire Brigade Motor.

There is another "devil" come to town. It is a noisy one, too, and its comings and goings are invariably accompanied by the clanging of bells, and the noise of fire engines. It is the automobile for the use of Fire-Chief Croker, which was ordered about a month ago of the Electric Vehicle Company, of Hartford, Connecticut, and is now here and in service.

The body is built on special lines, and the automobile is capable of making forty miles an hour. It is a 35 h.p. gasoline machine, one of the highest-powered vehicles made by the Electric Vehicle people. The engine is a regular four-cylinder affair. The body, however, presents an unusual appearance. The tonneau, common to such a big automobile, will be divided into two parts. The front of the tonneau will be a large box with hooks and straps to hold parts of the chief's uniform. There are places for rubber coats, rubber boots, helmet, smoke protector and such things. Room is left in the tonneau for two persons, so that the automobile will be capable of carrying four persons, including the chauffeur. The body is finished in red, just like the other vehicles belonging to the Fire Department, and has the monogram of the department on its side. Instead of a horn, a big gong will be fastened under the body of the machine, which will be rung by the pressure of the foot on a plunger.

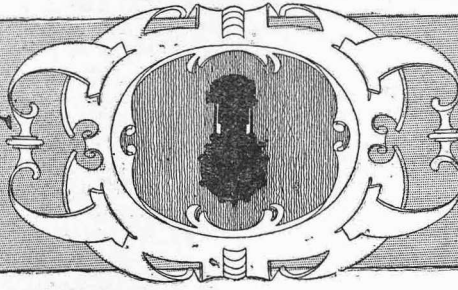
WHEEL.



AUTOMOBILES AT THE U.S. MANŒUVRES.

Miss Patten is depicted in the car on the left; in the other Mrs. Corbin, the wife of the Commander-in-Chief of the operations, is seen occupying the front seat, with Mrs. Fred Grant in the rear.

CYCLOMOTRY CAVALERIE



Spencer 1904

The Control of the Sport of Motorcycling. Rather a curious fact about the sport of motorcycling (using the word "sport" in its proper competitive sense) is that, despite its newness, it is already under perfect control. As a rule, any sport in the early days of its establishment has to put up with all sorts of injustices, abuses and malpractices, and it has frequently happened that a sport has been killed, or public confidence in its purity has been entirely destroyed long before a code of rules could be got together to put an end to the evils from which it has suffered. The reason is obvious, for a new sport is like a porous cask having a number of loopholes for leakages and unsportsmanlike actions, every one of which has to be closed up by a rule or a regulation. The sport of motorcycling fared differently, because, thanks to its origin, it was able to start fair and square, every loophole being known and barricaded beforehand. For this good work, the National Cyclists' Union is to be thanked. That body has had a very hard fight to maintain the purity of its amateurism, the greatest difficulty—one known, perhaps, in no other sport—being that of the "maker's amateur," the man, who, posing as an amateur, was actually being subsidised by a maker of cycles or tyres. This great evil was fought for about 16 years, being finally routed under the inquisitorial methods which were introduced by the scheme for licensing all riders. My own experience in that fight goes back for about nine years, and even now it is difficult to understand why men whose personal interests were not affected in any way should have devoted so much time and thought and energy to keeping pure a sport in which they themselves no longer indulged. But it is an exceedingly fortunate thing that such men will come forward and take up their share of the burden, otherwise sport would, indeed, get into a parlous state.

From the first day when a motor was fitted to a bicycle, the far-seeing ones on the Union Committees recognised a new star in the firmament of sport, and, as the machinery existed for the control of cycle racing on road and race-track, it was an easy matter to place motorcycle racing under the same control. The new-comer thrived amid its genial surroundings, and, gradually developing along its own lines (like a duckling amid a brood of chickens), soon grew out of hand, and then a bargain was struck with the Automobile Club, whereby the latter body took over its control. But the Club itself scarcely knew what to do with the lusty infant, and it was at this precise juncture that "THE MOTOR" advocated a certain line of action, which, being followed by the Club, resulted in the formation of the Auto-Cycle Club, to which the parent Club delegated its powers of control over motorcycling matters, merely reserving the right to object to and, if necessary, over-rule any decision or action of the new body which should be antagonistic to the Club or the general interests of motoring. The establishment of the Auto-Cycle Club has resulted in the control of the sport on the race-track upon such hard-and-fast lines, that it is practically impossible for wrongdoings to go unpunished, and thus the sport is made fair for everybody.

Control of Road Events.

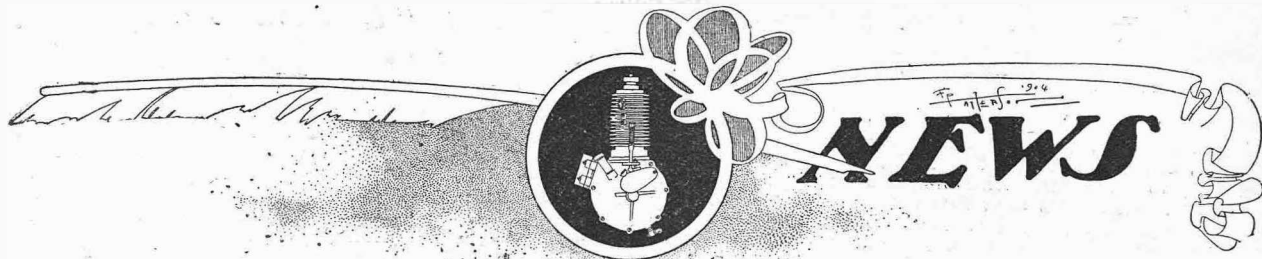
The control of sport and competition on the road is not quite so clear a proposition, but it is easy to show that efficient control is very essential. Otherwise, racing men thrown out of path work could enter for all open road events, and the promoting clubs would be at the mercy of

men up to all sorts of shady tricks, with no redress or protection beyond the dubious one of the law (and it is a curious fact that sporting questions seldom get properly decided in a court of law). Moreover, competitors themselves would have no protection against defaulting clubs, and one club which, for instance, had gone to a lot of trouble and expense to organise a meeting, might find the ground cut away from under its feet, and all its competitors attracted to another, with generous promises of prizes, which would eventually fail to materialise. Without control, sport on the road would soon become impossible, not only for the above reasons and many of a like nature, but because events would be run without any consideration being shown for public interests, and the end would be the prohibition by the police and the ruling body of all forms of road sport. Considering the comparative harmlessness of hill climbs on deserted roads, of the interest such events create, and of their undoubted usefulness, it is obvious that every possible step must be taken to safeguard the future, and this can only be done by some form of control.

A Practical Scheme.

Up to the present, the clubs (who are the right bodies to form a mutual association for the purpose) have not come forward, and, as it was desirable that control should be established, the Auto-Cycle Club stepped into the breach last May, and assumed the control. It had all the machinery; it already controlled the riders, and had powers of punishment: it knew the game, and it was in a position to advise upon the best and wisest methods for running road events. It did not go beyond the control of open road contests, thus leaving all promoting clubs in unfettered control over such events as were confined exclusively to their own members. This control has answered satisfactorily so far, and as soon as it becomes understood that the control is being exercised by an independent and unprejudiced body, simply and solely for the general good, the scheme will become more popular.

Apropos of this subject, the enormous extent of the power of the Auto-Cycle Club in dealing with misdemeanants is not generally known. If it should suspend a racing man, that person is not only barred from competing in any open motorcycle contest, but he cannot drive a car in any event promoted by the Automobile Club or any of the clubs affiliated to it: nor can he race on an ordinary bicycle on any English track: nor can he race on a motorcar or on a motorcycle in France. Under the agreements which the Club has with the various controlling bodies, a man is virtually thrown out, either permanently or temporarily, from various forms of sport, so the punishment is a severe one. There is, however, a still more severe punishment which, embracing all those disqualifications, excludes a man from entering the enclosure or dressing-rooms of any track—practically, he is "warned off." It is so very unusual for a sport-promoting club to get into trouble, that, even in cycling matters, there are very few precedents. But if a club treats either the public or the competitors badly, or acts in a spirit contrary to the interests of the sport, it could be suspended, and as long as the suspension remained in force, could not promote any open event on road or track, and its members could not compete in any open event in the name of the club. Such a sentence would practically kill any club.



The Daily Press has commented editorially, and in most cases favourably, on the introduction of the motor omnibus in London.

Kelecom Motors, Ltd., to whom the business of the Ormonde Motor Co. was transferred last February, has gone into liquidation.

The International Cup race at New York on Saturday, September 24th, was won by Mr. Gould Brokaw's 30 h.p. Renault in 10 mins. 1½ secs., the distance being 10 miles.

The deficit on the Gordon-Bennett race amounts to 145,250 marks. As a mark is practically the equivalent of a shilling, this means a loss of about £7,250. The guarantee fund amounted to over £9,000.

In our last issue we reproduced a photograph of Fossier mounted on a Werner motor-bicycle. By a printer's error the name of Fossier appeared as Tessier, who, it will be remembered, always rides a Bat.

At the Blackpool race meeting, on October 14th and 15th, Messrs. S. F. Edge, C. S. Rollis, C. Jarrott, A. L. Guinness, and Sir A. Macdonald are expected to compete. The track was inspected on Thursday last by Col. Mark Mayhew, who pronounced it to be one of the best in the country. The programme will include a standing mile and a flying kilometre.

Mr. R. O. Allsop, of Orpington, Kent, has just perfected a carburetter, which, when fitted to an ordinary petrol engine, enables it to consume common petroleum as a fuel in a smokeless and almost odourless manner, and without leaving any carbonaceous deposit. From all reports the device appears to be acting in a very efficient and satisfactory manner, and in our next issue we shall publish an illustrated description of it.

Coming Events.

- Oct. 8. Vanderbilt Cup (America).
 .. 9. Gaillon Hill Climb.
 .. 10. Power Transmission Tests (Paris).
 .. 14. Leipzig Motor Show.
 .. 14, 15. Motor Racing at Blackpool.
 .. 20. Commencement of the Automobile Club's Winter Session. On this occasion Mr. W. Worby Beaumont will read a paper on "Development of the Small Car."
 .. 23. Annual Hill Climbing Competition at Chateau Thierry (organised by "L'Auto").
 .. —. Paris Industrial Vehicles Trials (A. C. France).
 .. 28. Lincoln A.C. Dinner at the Saracen's Head (to be followed by a paper by Dr. Ormandy on "Alcohol for Commercial Purposes").
 .. 30. Gaillon Hill Climb (also organised by "L'Auto").
 Nov. 18 to 26. Stanley Cycle and Motor Show (Agricultural Hall, London).
 .. 20. 100 Kilometres Trial (A.C. Algeria).
 .. 30. Auto-Cycle Club's Annual Dinner.
 Dec. 5 to Jan. 15. Exhibition of Engines for Motor Boats and Airships, and Heavy Automobiles; also special prominence to devices for alcohol consumption (Cours de la Reine Conservatoires).
 .. 9 to 26. French Automobile Salon (Grand Palais, Paris).
 .. 26. to Jan. 2. Motor Union of Western India Reliability Trial.
 .. 31. Entries close for 1905 Gordon-Bennett Contest.

The King motor-bicycle which recently won the Brown trophy was fitted with an M.M.C. motor.

Hal Hurst, a well-known name in the world of art, has recently become a member of the Motor Union.

The Automobile Club of America is actively engaged in prosecuting fanatical farmers who "hold up" motorists with firearms.

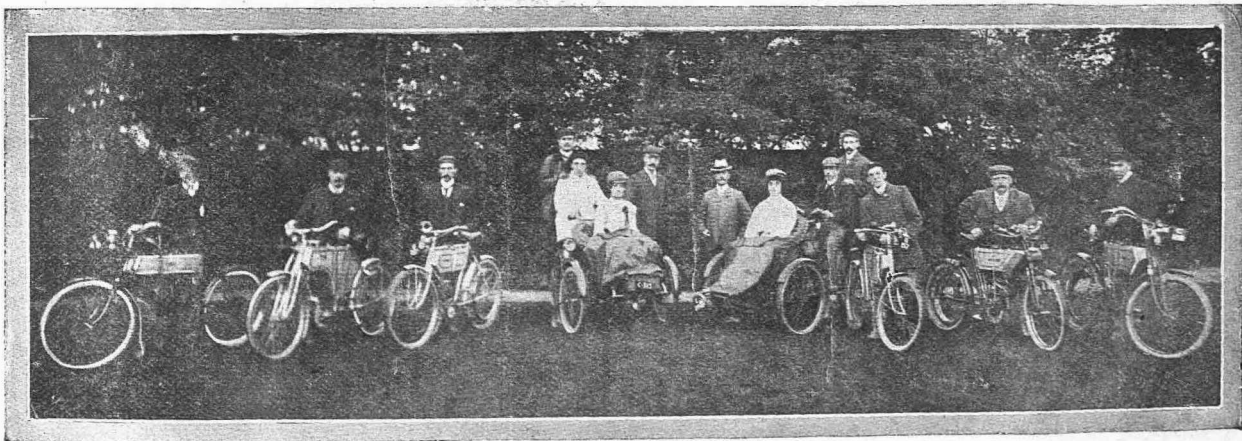
The trial trip of one of the Road Car Co.'s new motor 'buses last week was not a success; the vehicle ran into a fruiterer's shop.

Will Mr. A. D. Williams, who has written to Mr. J. van Hoooydonk, kindly send his address, as it was omitted from his communication.

There is trouble brewing between the Motor Union and members of local clubs affiliated to the parent club. Complaints are made that prospective local members are "filched" by the Motor Union, and fail to give support to their home organisations.

"Punch" recently had a really humorous sketch which is rather above the usual run of motorcar jests. An amiable old gentleman, behind whose back a party of motorists in a big car are gesticulating wildly and pumping a big horn, observes with a smile, "Dear me, I can't be as deaf as people make out. I can hear a little bee buzzing quite plainly."

Mr. Herbert C. Webb, the manager of Provincial Carriers, Ltd., 45, Horseferry Road, S.W., writes us that the driver of their mail van, which plies between London and Redhill, reports that he has lost one of the rear tyres. Twin tyres are used, and, therefore, it was not missed until he had completed his journey. Mr. Webb will be glad to receive any information which may lead to the recovery of the tyre.



The opening run of the Morley Automobile Club. This was the occasion of an unfortunate accident to two of the Members, particulars of which appear on the next page.

NEWS.

THE MOTORCYCLE "GORDON-BENNETT."

Some Facts about the Nails.

Mr. Gordon Stuart, chief of the Johannesburg Fire Brigade, an ardent motorist, offered a valuable Silver Challenge Cup to the winner of a motorcycle race open to all comers from Pretoria to Johannesburg. We learn that Murkett, on a "Vindec Special," won the trophy, beating the previous best record time by 16 minutes, Chater (on a "Vindec"), the second man, being also within record time.

Change of Name.

The General Motor Car Co., Ltd., have changed the style of the firm to the Metropolitan Engineering and General Motor Car Co., Ltd. Their factory is situated at Commonside East, Mitcham, Surrey, and their showrooms at Norbury. They inform us that they are also opening another depot in Royal Parade, Croydon, and that they are now prepared to undertake any general engineering work.

An Unlucky Opening Run.

On the preceding page we have reproduced a photograph of the Morley Automobile Club on their first run. The meet was at Morley Market Place, from whence the party travelled to Bruncliffe, where one of the motorcyclists was brought down by a dog and buckled his front wheel. On arriving at Mr. Caunt's house, the photo was taken in the garden, after which the members set out for a short run towards Wakefield. Just before entering this city Mr. Lionel Ainsworth, on a 3½ h.p. Minerva motor-bicycle, fitted with a back seat attachment, upon which was seated Mr. John Rawdon, ran into a horse and trap coming in the opposite direction, breaking the shafts and throwing out the occupants of the trap. Mr. Ainsworth and Mr. Rawdon were rendered unconscious, and the horse was severely cut, but the occupants of the trap were unhurt. The injured motorcyclists were taken to the Wakefield Clayton Hospital. Mr. Rawdon's injuries were confined to a cut on the forehead and a bad shaking, but Mr. Ainsworth was found to have three ribs and his jaw broken, besides being badly cut; he is still in hospital in a serious condition, although slightly improved.

A representative of "THE MOTOR" has been able to gather from authoritative sources information as to what really happened on the occasion of the international motor-bicycle race which took place in France on Sunday week. At the outset however, we may say that the British party left London on Tuesday, September 20th, via Southampton and Havre; Mr. O'Gorman left on Thursday. Arrangements had previously been made with the Motor Cycle Club de France to render what assistance was possible to our men; but the selection of the Havre route necessitated long formalities with the French Customs authorities, and postponed the arrival in Paris to a later date than the officials of the Motor Cycle Club de France had expected. In fact, for two days it was impossible to locate the address of our men. We make this explanation because the British competitors consider they have been badly treated in this respect; but our enquiries lead us to believe that the Frenchmen would have been willing to give assistance immediately our men arrived in Paris if they had known of their whereabouts. The secretary of the French Automobile Club was of considerable service to one of our men, and for this help, coming as it did from a perfect stranger, it is only fair that due acknowledgment should be made.

THE ENGLISH MACHINES WERE DULY WEIGHED,

and nearly every portion was stamped, even to the hubs of the wheels: we call attention to this stamping in view of what occurred during the race. After the weighing formalities the party proceeded to Dourdan and engaged quarters. Preliminary spins were taken over the course, and in one or two unofficial tussles they had with Lamberjack and Demester they proved that their expectations were not too optimistic. The French competitors completed their preliminary spins on Saturday morning; on Saturday afternoon our men went for a final run around the course, and, just beyond Authon, Silver, on the Quadrant, ran into a patch of large stones strewn all over the road for some distance. One of the stones jammed be-

tween the back forks and the wheel, buckling the rear rim and smashing up the rear brake. Fortunately such an occurrence had been provided for, and Silver had his machine in good going order again by the evening. Why the stones were put down after the Frenchmen had completed their training spins was somewhat of a mystery, as they were cleared away prior to the start of the race at 6 o'clock on Sunday morning. The explanation tendered to our official representative was to the effect that the folks at Authon had decided to repair their roads on this particular afternoon. On Saturday afternoon the International Committee held a meeting at Dourdan, which extended over many hours, and our British representative, after long arguments, secured for the foreign competing clubs concessions of a nature to make the race more satisfactory. Amongst the points upon which Mr. O'Gorman secured the adhesion of the French and other delegates were the following:—Outside assistance should be permitted in all possible ways to each rider, either for tyres, repairs to machine, filling of tanks with petrol and oil;

ALL MACHINES TO BE RE-WEIGHED

immediately at the conclusion of the race, being taken charge of by the judges as each man finished; tyres allowed to be exchanged, repaired, or supplied by outsiders; all machines to arrive before noon. The French machines had not been weighed in front of all the foreign representatives on the committee, and Mr. O'Gorman's desire for re-weighing was eventually acceded to. The decision as to definitely allowing outside assistance was only officially communicated to the British team at 11 p.m. on the night preceding the race, and when Mr. Gunn went around the hotel and informed the men, the tidings could hardly be believed. Both our manufacturers and competitors had made all their arrangements strictly in accordance with a typewritten circular issued to them by the Auto-Cycle Club of England, which professed to be a faithful translation of the French printed regulations. The particular clause upon which rest the grievances and complaints of the British team reads as follows in the trans-



THE INTERNATIONAL MOTOR-BICYCLE RACE.

Rignold and his wrecked Lafonda rescued by a friendly waggoner.

Griffon's mechanics repairing punctures with lightning rapidity.

NEWS.

lation:—"Competitors are forbidden to replenish at the controls, or to obtain help for repairs; the competitor alone must do his own repairs, and he must not replenish on neutral ground." The French members of the committee contended that this clause only meant that tanks must not be filled in controls, and that if a man effected repairs in a control he must do so unaided. This might have been the intention of the original committee who drew up the regulations; but most certainly neither in the French rules nor the English translation thereof is any such intention expressed. We agree entirely with the British team that, as printed, the rule means that petrol must be obtained outside the controls; moreover, a man must not repair inside controls, and when he does repair, such repair must be without any outside assistance whatever. The French riders made it quite apparent that, rules or no rules,

THEY MEANT WINNING THE CUP.

At 6 a.m. on Sunday Monsieur Tampier, the well-known French timekeeper, who, as usual, was early at his post, started the race. All the British team were going well up to Authon; Hodgkinson, on the Jap, had taken the wrong road through the control at Dourdan, as no pilot cyclist was visible to take him along; in spite of this he passed two men. Silver, on the Quadrant, had passed one man, and Rignold, on the Lagonda, had passed Lamberjack, the distance then covered being about 20 miles. Hodgkinson, later on, discovered that one of the men he had passed was Adolf Mraz, who had started at 6.6; as Hodgkinson had started 8 mins. later, at 6.14, and at 20 miles had overhauled Mraz, his pace must have been a very hot one, as Mraz was timed to do the first round of the course (33½ miles) in 41 mins. 23 secs. Just beyond Authon Silver's front tyre subsided, and upon dismounting he pulled out

THREE ROUND-HEADED HOB-NAILS:

not the sort we know in England. The nails are peculiar because, if thrown down, 99 out of 100 would be certain to rest with the point upwards. Whilst the solution was settling on his inner tube, Silver noticed a man in the distance (to his rear) busily sweeping the stretch of road he had just covered. Upon Silver's approach the sweeper hurriedly disappeared up a side lane, and a cyclist who was standing beside the sweeper, jumped aboard his machine and scurried away. Silver picked up several of the hob-nails and some tacks, ¾ in. in length, all being quite new and unsoiled, as if just thrown down. Silver met with several punctures in the next mile or two, until a sudden deflation of his tyre precipitated him into the side of the road, and finding his front wheel buckled he decided to abandon the race. Hodgkinson's experience was very similar to Silver's. Entering Abbis both his tyres suddenly punctured (new hob-nails again) and his machine slipped suddenly from under him, letting him down heavily. Rignold got through the first round with only one puncture, and then did 50 min. 8 secs. Soon after passing Dourdan for the second time he punctured (new hob-nails) and his rear tyre

collapsed, causing the machine to swerve; Rignold was thrown off on one side of a bank, the machine bounded over into a field on the other side and turned a few somersaults upon its own account until it came to rest with a wrecked rear wheel, bent front forks and handlebar, etc., etc. Our men are quite certain that the French race officials

WERE IN ENTIRE IGNORANCE

of the hob-nail game until Silver told them at Authon. That the nails were placed on the roads with intention of inflicting malicious injury upon some of the competitors there can be no doubt. From various statements made to us the nails do not appear to have been thrown down indiscriminately, but were laid in those places which a man on a fast machine would naturally take, such as inside of a bend or big turn; the rails were laid down quite clear of the houses and villages, and apparently upon some system. But whatever was intended, the cup remains in France, and in spite of the hob-nails the plucky Toman, on a Larrin-Klement, nearly succeeded in taking it to Austria. Toman's times (published in our last issue) are really remarkable. Taking the distance of a lap as being 33½ miles, he



C. R. EDBROOKE,

The winner of Gold Medal for fastest time and most meritorious performance in the Bristol Bicycle and Motor Club Hill-climbing Competition.

must have covered some portions of the road at almost 65 miles an hour, and his total average speed works out at over 58 miles an hour. The winner's time (Demester) was also truly remarkable, as he reported having had four punctures; how these punctures could have occurred does not quite appear, unless some magic tyre-repairing methods were adopted.

For Next Year's Gordon-Bennett.

Some important modifications of the Gordon-Bennett race rules are to be proposed at the forthcoming meeting of the French Automobile Club. The Marquis de Dion will put the following resolutions:—(1) That the course shall be extended to 1,000 kilometres (double its present length) and the race extend over two days—500 kilometres each day. (2) That France shall be represented by three cars made by the firm whose car wins the eliminating trials. (3) That the race shall be a team race—i.e., shall be won by the nation whose three cars obtain the best positions. (4) That competitors shall only be allowed a limited number of tyres and air tubes.

The Mars Motor and Cycle Co., of Church End, Finchley, have just placed a new two-seated car upon the market. It is fitted with a 2 h.p. water-cooled engine, a two-speed gear (the wheels of which are always in mesh), while it has a friction-clutch overcoming end thrusts, and also a pump circulation, and a special combined tank and radiators. The body is coach-built, and has a large rubber-covered platform. The vehicle is chain-driven—a Hans Renold ¾ in. pitch chain being fitted. We hope to publish further details and an illustration of this car, which is essentially one for the man of moderate means, in our next issue.

The Schottwein-Semmering Hill-climbing Competition.

The Schottwein-Semmering Hill-climbing Competition (10 kilometres) was duly held on September 25th. Beautiful weather favoured the meeting and the results are as follow:—Motorcycles up to 50 kilos.—(1) Nikoden (Puch), 10 mins. 21½ secs.; (2) Gerger (Noricum), 10 mins. 30½ secs.; (3) Wejtruba, 10 mins. 39 secs. Motorcycles up to 65 kilos.—(1) Bittner (Noricum), 9 mins. 45½ secs.; (2) Franz Huber (Roessler and Jauernig), 11 mins. 18 secs.; (3) Konecy (Puch), 11 mins. 24½ secs. Light cars of 250-400 kilos.—(1) Otto Hieronimus (Spitz), 8 mins. 52½ secs.; (2) Michel (Opel-Darracq), 10 mins. 21½ secs.; (3) Maurer (Neremberg "Union"), 11 mins. 53½ secs. The 1903 record stood at 14 mins. 37 secs. Heavy cars of 650-1,000 kilos.—(1) Hermann Braun, who steered Herr Theodor Dreher's 80 h.p. Wiener-Neustadt Mercedes, 8 mins. 11½ secs. (1903 record: 8 mins. 47½ secs.); (2) Duray (Darracq), 8 mins. 32 secs.; (3) Willy Poege (Mercedes), 8 mins. 38½ secs.; (4) Lancia (Fiat), 9 mins. ¼ secs.; (5) Mathis (Dietrich), 9 mins. 6½ secs.

Bristol Bicycle and Motor Club.

Under the auspices of the above club, a hill-climbing contest was carried out on Red Hill, near Bristol, on Saturday, September 24th. The course was from the ninth to the eighth milestone, giving a total rise of 350 feet, fully two-thirds of which is in the last half-mile. The event was confined entirely to club members, and although no public announcement was made, a large number of motorcars and motor-bicycles were in evidence on the hill, and the competition aroused considerable enthusiasm. The principal officials were:—Mr. A. Deacon, timekeeper and judge at finish; Mr. F. Simmons, starter and timekeeper, assisted by Messrs. T. Goulding and W. J. Sims. Two gold medals were given by the club, one for fastest time and the other for the most meritorious performance, the result being arrived at by the formula of the Auto-Cycle Club. As no competitor was allowed to take both prizes, Mr. F. G. Tricks was awarded the second gold medal. The following are the results:—(1) C. R. Edbrooke (3 h.p. Leader, Clement-Garrard), figure of merit, 6,788, 2 mins. 19 secs.; (2) F. G. Tricks (3 h.p. Crabbe, Fafnir), 5,713, 2 mins. 19½ secs.; (3) Dr. J. T. Wallace (2 h.p. Leader, Minerva), 5,323, 3 mins. 7½ secs.; (4) R. Stock (3 h.p. Quadrant), 4,633, 2 mins. 47½ secs.; (5) T. Roberts (3 h.p. Leader, Clement-Garrard), 4,398, 3 mins. 23½ secs.; (6) F. G. Rowe (3 h.p. Quadrant), 3,997, 3 mins. 12½ secs.; (7) R. J. Fry (4 h.p. Soncini), 3,595, 2 mins. 40½ secs.; (8) W. Ridler (3 h.p. Leader, Fafnir), 3,532, 3 mins. 52½ secs.

NEWS.

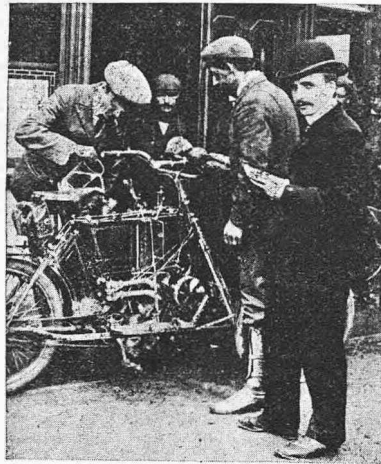
AUTO-CYCLE CLUB'S PETROL CONSUMPTION TRIAL.

An interesting petrol consumption test was held by the Auto-Cycle Club on Saturday last. The distance was 50 miles, starting from Thames Ditton, and then, via Ripley, Guildford, to a few miles past Godalming, and then return. The roads were for the most part in a fearful state of thick mud, due to the heavy rain on Friday and Saturday morning. A start was made from the Angel, Thames Ditton, at 2.45, the competitors' petrol tanks having been filled right up by the officials. The amount of petrol used in covering the 50 miles was determined by refilling the tank from a graduated vessel. The starters were:—C. A. Smith, 2½ h.p. Ariel tri-cycle; E. Palmer, 3 h.p. Singer tri-car; H. Martin, 3 h.p. Excelsior, J. van Hooydonk, 3½ h.p. Trimo; E. Perman, 2 h.p. "Seventy"; H. Rignold, 4½ h.p. La-gonda; S. Harris, 1¼ h.p. F.N. Whippet; J. J. Leonard, 2¾ h.p. Lurquin and Cou-dert; F. W. Applebee, 3½ h.p. Rex; J. H. Reeves, 2½ h.p. R. and P.; H. J. Densham, 2½ h.p. Anglian; H. P. Rose, 2½ h.p. Roc. A Humber car with officials on board set the pace. Notwithstanding

THE TREACHEROUS CONDITION OF THE ROADS,

everyone got along in good style, and it is pleasant to record that there were no side-slips experienced by any of the competitors, although there were some very narrow escapes, especially in passing through Godalming, where it was necessary for some of the riders to dismount. On the return journey a mishap occurred to the officials' car, and it was unable to proceed beyond Godalming. The competitors thus had to go ahead without it. They got back to Ditton just as darkness was coming on, and only one competitor

had dropped out of the contest, this being Palmer. On arriving back at the Angel—the car and officials not having turned up—there was no one to measure the petrol consumed. A telegram arrived later on—just as everyone was getting ready to start for home—from the officials, authorising Messrs. Lyons Sampson, and Perman to take the necessary measurements. The graduated vessel and a supply of petrol being at hand this was done. As certain



Mr. Mervyn O'Gorman serving out petrol to Mr. Hooydonk's Trimo.

figures taken at the start were not available,

THE AMOUNT OF PETROL CONSUMED

by each competitor's machine could only be determined with moderate accuracy. The results were as follows:—Rose used 42 ozs.; Harris, 44 ozs.; Perman, 52 ozs.; Martin, 60 ozs.; Leonard, 74 ozs.; Densham, 79 ozs.; Rignold, 86 ozs.; Applebee, 93 ozs.; Hooydonk (Trimo and

passenger), 120 ozs. Smith and Reeves had left before measurements could be taken. The lowest consumption, one and one-twentieth quarts for the 50 miles, was that of Rose, on a 70 by 76 engine and F.N. carburetter. Next, that of Harris, 50 by 68—a tiny F.N. engine and carburetter—one and one-tenth quarts; Perman, 60 by 70 Clement-Garrad engine and carburetter, 1½ quarts; Martin, 1½ quarts, Excelsior 80 by 80 engine and surface carburetter. The average distance per gallon would approximately be:—Rose, 192 miles; Harris, 182.4 miles; Perman, 153.7 miles; Martin, 132.8 miles. The cost for the 50 miles' running would be 3.3d., 3.5d., 4.16d., 4.8d. respectively. Had the roads been at all in good condition better performances would have been done. As it was, the roads were exceedingly heavy, which meant using proportionately more gas. A great deal of interest was shown in the event, and many prominent motorists were about. Mr. and Mrs. Dangerfield followed the competitors on a Talbot car. Messrs. Chereau, Lyons Sampson, and Mr. and Mrs. Gunn were also there. A fine 90 h.p. Mercedes car, with Sir A. Harmsworth, Bart., on board, was passed near Guildford.

A Northamptonshire Meet

On the invitation of the Hon. H. L. Brassey, the members of the Northamptonshire Automobile Club visited his charming place, Apethorpe Hall—recently acquired from the Earl of Westmoreland—on Thursday afternoon, Sept. 29th. On arrival at the rendezvous, Mr. Brassey met the motorists, who were free to roam over his beautiful grounds. Mr. Brassey, who is a vice-president of the Northamptonshire Automobile Club, is a keen motorist, and two of his cars—a fine 15 h.p. Panhard and a 15 h.p. Clarron—were brought round for inspection by the visitors. Before separating, the motorists were entertained to refreshments in the alcoves on the south side of the house.



The Auto-Cycle Club's Petrol Consumption Trial: the competitors at Thames Ditton just prior to the start.

NEWS.

PARIS NOTES.

(FROM OUR OWN CORRESPONDENT.)

Needless to say, the great topic of conversation throughout the week in Parisian motoring circles has been the International Motorcycle Cup race and the cancelling of the steward's decision declaring the race void, as reported in our last issue.

This decision was arrived at late on Sunday, but its announcement created such indignation that on Monday it was thought advisable to call a special meeting of the International Committee so as to reconsider it. This was done, and a lengthy discussion resulted in the stewards' decision being upset and the result of the race, as reported, being declared official. Therefore, France definitely wins the cup and will keep it for one year.

What was not Said.

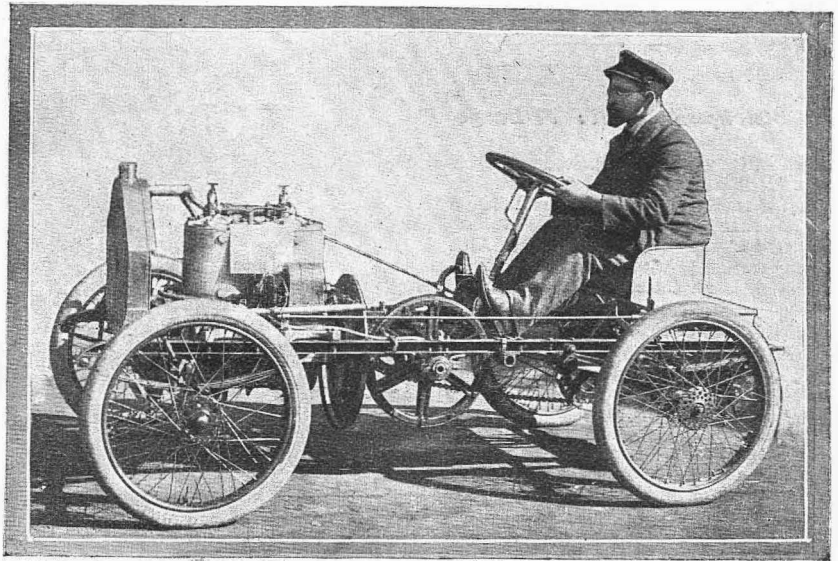
In justice to the stewards, it should be stated here that although the motives of their verdict have not been made public, they felt convinced that the spreading of the nails was due to some persons directly interested in the victory of the French team.

As, however, this belief reposed only on what is termed a moral certainty, and as no proofs could possibly be given, the only course to adopt lay in letting things stand as they were, and the stewards were certainly wrong in taking such strange action as declaring a race void and giving no explanation whatever as to the reason.

Needless to say, they are now very much upset over the turn things have taken, and, according to the last news, the senior steward, M. Cornier, has just sent in his resignation as vice-president of the Motorcycle Club de France.

The "Tiers de Litre."

The next event calling forth attention on the automobile calendar is another one



Maurer, who secured an award in the Semmering Hill Climb in the light car class. His "Union" car is fitted with a friction disc gear giving any speeds from zero to maximum. It is known in this country as the Frick, and was fully described in "The Motor" early in the year.

for motor-bicycles, namely, the "Critérium du Tiers de Litre," promoted by "L'Auto," which starts to-day (Tuesday) on the Parc des Princes track.

The idea is to have a contest between motor-bicycles of the current commercial type. The distance is to be 100 kilometres, and will last over five days, competitors being divided up in heats which will qualify winners for the final race. The conditions provide that machines shall not exceed 75 kilos. in weight, and their cylinder capacity must not exceed one-third of a litre (hence the name of the contest), silencers being compulsory.

As the race is one for machines and not men, the same machine can be ridden in one race by several riders, and the same rider can steer a different machine in each heat if he chooses. All the leading makers have entered a large number of their products, and, from a commercial

point of view, the event promises to be a highly interesting one.

The Dourdan Speed Contests.

Before the above race is concluded the "speed monsters" will have fought their battle once again over the classical Dourdan road, the distances being as usual one kilometre and one mile.

One "Napier" car is entered, but is not expected to start, and the fight in the heavy car division promises to be once again between Rigolly's Gobron and Baras' Darracq; while a good field is also expected to line up for the motorcycle class.

It will be interesting to see whether Rigolly's remarkable time for the kilometre, viz., 21½ secs. is beaten.

Chateau-Thierry.

Before the season closes the two annual hill-climbing competitions, one for tourists, the other for racing vehicles, will be held on the Chateau-Thierry hill on October 23rd.

It is to be entirely reserved to "bonafide" touring vehicles; and if this rule can be strictly adhered to, an interesting event ought to result.

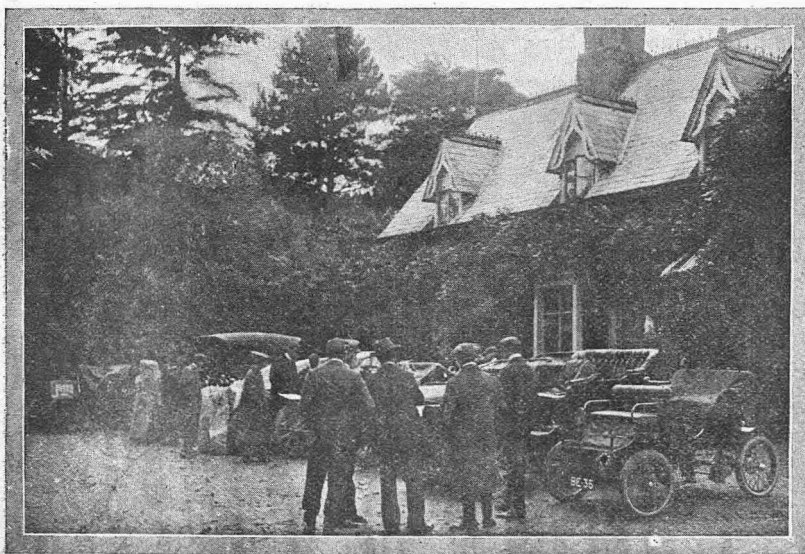
A Scandal.

Quite a scandal was unearthed last week in connection with "circulation permits" issued in Paris.

It appears that some people connected with the office which is responsible for the delivery of those permits have been of late distributing them wholesale to any individual willing to pay a certain sum to escape the required examination and all other formalities. An enquiry is being held and may lead to some more severe restrictions of which chauffeurs will again be the sufferers.

A Joke!

The irrepressible humour of the police court magistrate bubbles up even in motor cases. The Bradford stipendiary had occasion recently to adjourn a charge of reckless driving against a motorist, and he did it with this playful sally of wit—"Will you give me an undertaking not to kill anyone in the meantime?"

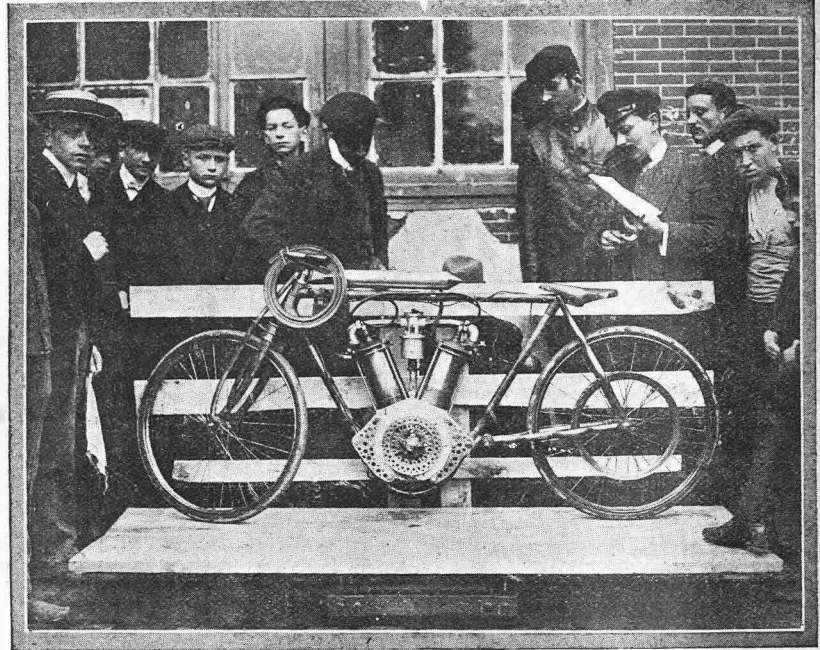


On Saturday the active Lincolnshire A.C. concluded a busy season with a run to Revesby. The photograph shows some of the members outside the "Red Lion" hostelry, a very popular Lincolnshire resort.

NEWS.

The Blackpool Meet: A Large Entry.

Great interest is being excited in Blackpool and district by the preparations for the motor races, which are to be held on the Promenade on Friday and Saturday next, under the auspices of the A.C. The programme, which has now been completed, is an interesting and comprehensive one. The first day will be opened by the motorcyclists, who have two classes set apart for them, the first, or Class A, being for motorcycles weighing less than 170lb.; while Class B has no weight limit. The entrance fee for the first event is 10s. 6d., and for the second one guinea. The classes for touring cars come next. Class C is for cars carrying two passengers and costing £250 or under; and the entrance fee is one guinea. Class D is for cars carrying four persons and costing under £500; entrance fee two guineas. Similarly, Class E has a price limit of between £500 to £750, with two guineas entrance fee. Class F is for touring cars costing from £750 to £1,200; and Class G for cars of any price carrying not less than four passengers. The entrance fee for these last two classes is three guineas. The average weight of the passengers must not be less than 10 stone, and each car must be fully equipped with regard to lamps, mudguards, etc. The first class in the section for racers is for cars weighing not more than 650 kilos—14cwt. 3qr. 5lb. The entrance fee for this is three guineas. Unless there are four entrants this class will be abandoned. The second racing class has a weight limit of 1,000 kilos—19cwt. 3qr. 20lb.; entrance fee three guineas. Races will be run from a standing start on the first day over a distance of one mile; while on the Saturday the cars will cover a kilometre from a flying start. Matches between individuals can be arranged, and attempts on records will be made by some of the racing cars. Most of the famous English racers will participate at the fixture, and an interesting meet is anticipated. Mr. H. Woods, Hotel Metropole, Blackpool, is hon. sec.



THE DOURDAN SPEED TRIALS.
These commenced on Monday last, and a fully illustrated report of them will appear in our next issue. The photograph shows Cissac and his Peugeot motor-bicycle being weighed in.

Speed Limit Enquiry at Kingston.

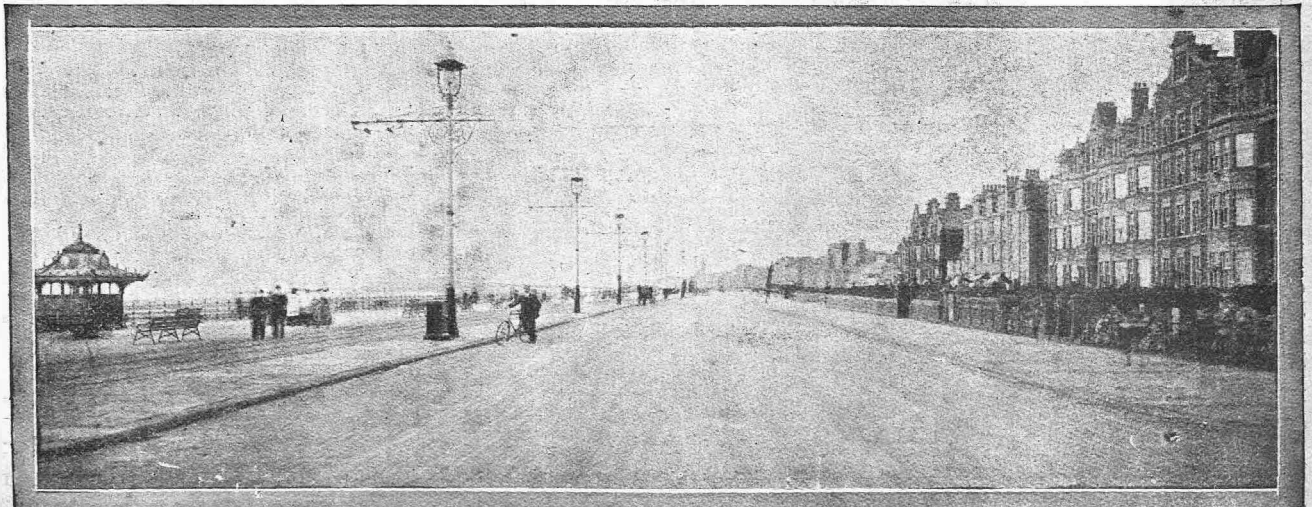
The enquiry into the application by the Kingston-on-Thames Borough Council for a ten miles speed limit was heard on Wednesday last, by Mr. E. P. Burd, on behalf of the Local Government Board. Mr. H. Winsor represented the Kingston Corporation, and Mr. W. R. Jeffreys the Automobile Club and the Motor Union. Mr. Winsor said that by reason of its special topographical position, Kingston attracted crowds of people, especially in the summer months, and drew a very large volume of motor traffic. This gave it a claim to be protected against excessive motor speed. There was no desire to hamper motor traffic. With the imposition of a ten miles limit, a motor vehicle could get through the town in six minutes.

Major Macaulay, borough surveyor, gave expert evidence as to the mileage of the borough, width of roads, etc. He thought a ten miles limit should be imposed for all traffic through the borough.

Mr. Jeffreys asked whether the police had had any difficulty in securing the conviction of motorists driving recklessly. The Inspector replied that he had found the evidence under section 1 satisfactory, and that the police were able, with their present powers, to regulate motor traffic in the borough.

Mr. E. K. Purchase said that the limit proposed would give no increased protection to the public of Kingston.

The official report will be submitted to the Local Government Board, and their decision made known in due course.



The Blackpool Meeting: a view of the promenade on which the races will take place.

NEWS.

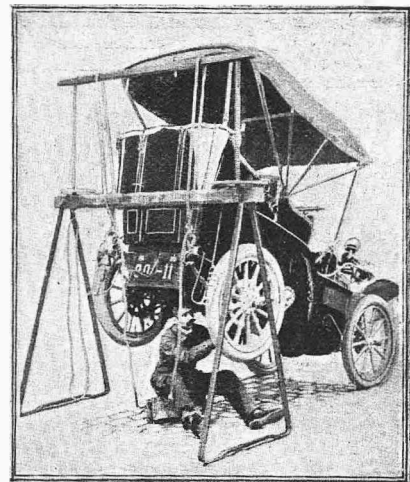
The "Bob-a-Nob" Motorcycle Trial: Competitor's Sensational Discovery.

"It has just occurred to me," writes Mr. H. P. Rose, a competitor in the recent A.C.C. members' reliability run to Exeter, "that I am the one and only bona fide winner of this event. Unfortunately, the club committee, at its non-stop sitting, failed entirely to accept this unbiased view; but I think the reader will admit that I have justice on my side. How did I arrive at this momentous conclusion? Very simply. All the competitors but Leonard and I, on their own confession, took the wrong route from Basingstoke to Salisbury, thus incurring disqualification. Then Leonard, being on a French machine, had to get in first, and thus got about half an hour inside minimum time. At Salisbury, therefore, I, strictly speaking, was the only competitor left in, and as I continued on to Exeter it is obvious that I won the event by a handsome margin. All the same, I don't want to be too hard on those who went through, so if the committee will remit all my fines and absolve me from liability I'll say no more about it. Having got that off my mind, may I give a few impressions? The principle of the event was, I think, excellent, but the lack of starters rather spoilt the sport of fine-collecting. I had a non-stop run to Salisbury, save for waiting outside until minimum time. Leonard was leading me, and I got ahead of the others through their taking the wrong road, as aforesaid. Three times between Salisbury and Yeovil I had to remove a red hot inlet dome, one valve cotter having sheared, and two others also broken, thus making a rattle of my exhaust box. The fourth stopped in position. Then my lamp, bit by bit, fell away. I let it fall, and spent the shillings I saved (and some others) in buying another at Yeovil. It was record price for a Silver King, but it burned all right. I was three-quarters of an hour behind the leaders, with 50 miles of unknown road to cover in dusk and dark. Running down a gentle slope at the legal limit I "found" a flock of

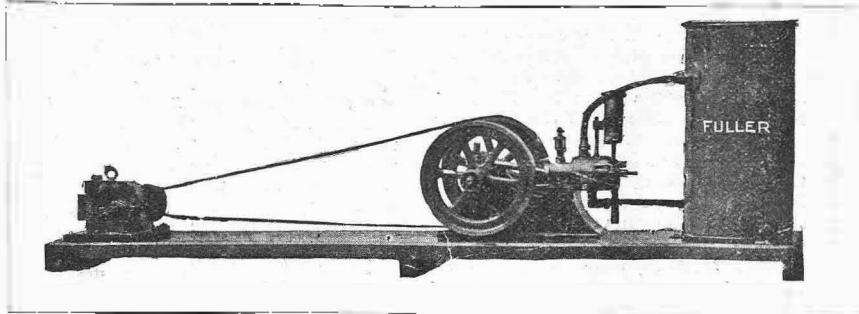
sheep. How I escaped a severe accident is a mystery. I fancy two of the sheep held on to my footrests as I pulled up; they all stood in the middle of the flock, and I toppled gently on to a soft shoulder of mutton. Do I pay a shilling for that? My only other dismounts were at Chard Hill, where I ran beside the machine, and at Honiton, where I bought some chocolate, and learned that I was fourth, and that 70 more were expected. At Exeter thousands of people were in the street, and the police were keeping a lane clear for me. It might have been the finish of the motorcycle 'Gordon-Bennett'!"

A Miniature Gas Engine and Dynamo Set for Charging Accumulators.

There are many motor agents and repairers in the country, and also in the Colonies, to whom the compact little electrical plant just introduced by the enterprising firm of J. C. Fuller and Sons, Wick Lane, Bow, London, E., should prove a boon for charging accumulators and lighting a set of lamps. There is a thoroughly well made little gas engine, having a water-cooled cylinder, driving a small shunt wound dynamo giving an output of 20 volts and 5 amperes, and specially adapted for charging accumulators. As a lighting dynamo it is equal to about 25 candle power. The engine

**A New French Trestle-jack.**

arrangement consists of two cross-bars (one of which is movable) supported on a pair of iron legs. The movable cross-bar has two screw-headed rods inserted in it. A rope passed over the two cross-bars is attached in some suitable manner to the car, and then by turning two hand-wheels the movable cross-bar can be

**The Fuller Combined Gas Engine and Dynamo Set for Charging Accumulators.**

develops $\frac{1}{4}$ h.p., and has a small pulley on the shaft, so that it can be belted up to a small lathe or drilling machine. It will be found an all-round useful engine in the repair shop. The engine has simply to be connected up to an ordinary gas jet. Messrs. Fuller intend to supply the engine adapted to run with paraffin oil, so that it will be available for use anywhere. The price it is placed on the market at, viz., £17 complete, as shown in the illustration, should command a large sale for it.

An Ingenious Jack.

One of the most interesting things in the Automobile Section of the World's Fair at St. Louis is a French trestle-jack, which is designed to take the place of an inspection pit, its comparative cheapness and portability being, of course, a great recommendation in this connection. The

raised or lowered at will, the end of the car being lifted or let down again accordingly. By using a pair of these trestle-jacks, one at each end, the whole car can be lifted bodily.

"Shell" Motor Spirit.

A sample tin of this new brand of spirit was recently sent to us for testing purposes, and a member of our staff who has tried it reports in enthusiastic terms of its merits. He owns a tri-car with a single gear, and has made the attempt this season to climb a particular hill: on every occasion the engine has stopped on the worst part of the gradient, and the remainder of the hill had to be pushed up. Last week-end the spirit tank was drained over night and every drop of old spirit evaporated. No change was made, or any adjustment made in any part of the machine. The hill was tackled, after an eight-mile run, and the tri-car went up (carrying its normal load) with the help of a few easy strokes of the pedals at the worst portion. The experiment was repeated next day with the same good result. A later trial with the old brand of spirit led to the stopping of the machine, after vigorous pedalling, at the usual spot.



A Minerva Motor-bicycle in Central Africa.
The Photograph was sent to the Minerva Company by Sir A. Sharpe, the British President at Zomba, the owner of the machine.

NEWS.

It is of peculiar interest to learn that, following in the footsteps of King Edward, the German Emperor contemplates a reduction of his stud in favour of motorcars.

The Local Government Board, under Section 2 of the Motor Cars Act, have fixed the index marks for the Council of the County Borough of Blackpool and the Council of the County Borough of Tyne-mouth as FR and FT respectively.

At the Dorset Automobile Club motor gymkhana, held at Bridgehead, for hill-climbing and speed contests, the competition for single-cylinder motors was won by a 6 h.p. De Dion car. Another 6 h.p. De Dion won the speed contest for cars under 10 h.p., the same car also being first in the bending race.

Another Case Dismissed.

On Monday of last week Dr. John Potter, of Maida Vale, was summoned at Hatfield Police Court for furiously driving his motorcar at Hatfield, on August 28th, so as to endanger the lives and limbs of passengers on the highway. From the evidence it appeared that Dr. Potter, accompanied by Dr. Don, and another gentleman, were driving through Hatfield to London at about 8.40 in the evening, and when outside Hatfield they came into collision with a waggonette containing six people, including the driver. The driver of the horse-drawn vehicle was the chief witness, and he stated that the car came upon him at a terrific speed; that he was driving towards London on the proper side of the road; that no warning was given of the approach of the motorcar; and the result of the collision was that the waggonette was smashed to pieces and all the passengers received injuries. Contributory negligence was alleged by the defence to the effect that the accident happened in consequence of the careless manner in which the waggonette was driven. There was great conflict of testimony, but ultimately the Bench dismissed the case, finding that Dr. Potter was not to blame for the accident. Mr. Staplee Firth defended.

Mr. Israel Zangwill, novelist and playwright, does not go so far as to say that all motorists are bounders; but he unhesitatingly affirms that all bounders are motorists—if they have the means or the friends.

At the Turin Umberto track, on September 20th, Giuppone won the 100 kilometres championship of Italy for light motorcycles in 1 hr. 25 mins. 11½ secs. Tamagni and Anzani had tyre troubles. Giuppone rode a Peugeot. Rigat, on a Fafnir, won the championship for touring motorcycles, covering the 10,000 metres in 8 mins. 50½ secs.



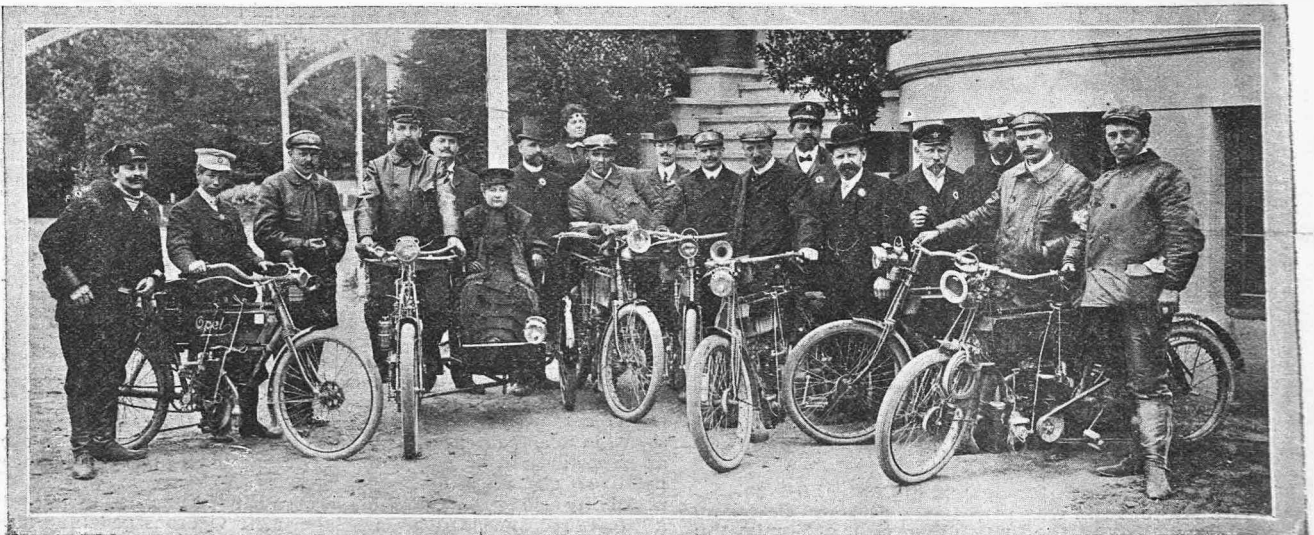
J. F. Crundall and the Humber racer, on which he won the Hour Motorcycle Contest at the Crystal Palace on Saturday week last.

French Chauffeurs for America.

The French steamer which has just arrived at New York had on board the whole of the French competitors for the Vanderbilt Cup, which is to be contested on Saturday next for the first time. The party comprised Albert Clément, the son of the well-known manufacturer, who has performed so well in the big events this season; Gabriel, the winner of the Paris-Bordeaux race last year; Teste and Tart, who were members of the Panhard team for the Gordon-Bennett Cup; and Arlault and Jarlet, two new-comers. This certainly constitutes a very strong team, and on paper France has a first-class chance in the big American race.

The Stuttgart-Kiel Courier Run in honour of Prince Henry of Prussia.

The German Motorcycle Association's Stuttgart-Kiel courier, or estafette, run, organised in honour of their new member, Prince Henry of Prussia, was carried through without a hitch, although most of the participators will have to reckon with summonses from the police, who troubled the couriers as only German constables can. The lengthy stretch of 767.3 kilometres was split up into eight stages averaging some 96 kilometres, and a message of thanks for his Highness's acceptance of an honorary membership in the Association was to be borne from stage to stage by members. The message took this form:—"Your Royal Highness has been most graciously pleased to favour our request to accept an honorary membership in our German Motorcycle Association. For this great honour conferred upon our Association and furthering of our good cause we beg, by means of this dispatch, conveyed by motorcycle couriers, to return our most humble thanks, and at the same time to pray that our Association and motoring may continue to retain your gracious interest." The Stuttgart-Heidelberg batch of couriers left Stuttgart, the headquarters of the Association, at 9 o'clock on Monday morning, September 19th, and Walter Fincke (Adler), who had ridden over four *etapes*, that is, from Meschede, 493.4 kilometres from Kiel, reached this port at 5.49 on Tuesday morning. A lady arrived next, Frau Eisenmann, who had motored over the final stage only, and after her another courier from Meschede, Herr Riecken. In the afternoon the committee and couriers assembled at the railway station, and then proceeded to the Royal Palace, where they were received by the Prince, who warmly congratulated the riders on their success. To Herr Fincke, of course, fell the honour of handing over the above dispatch. The Prince also asked that the best rider might be presented to him—Herr Struck, a Berliner, who had covered all the stages in 20 hrs. 32 mins. 50 secs. Prince Henry wired his thanks to Stuttgart, and expressed his admiration at the extraordinary efficiency both of riders and machines.



The Stuttgart-Kiel Motorcycle Run in honour of Prince Henry of Prussia: the Arrival.

NEWS.

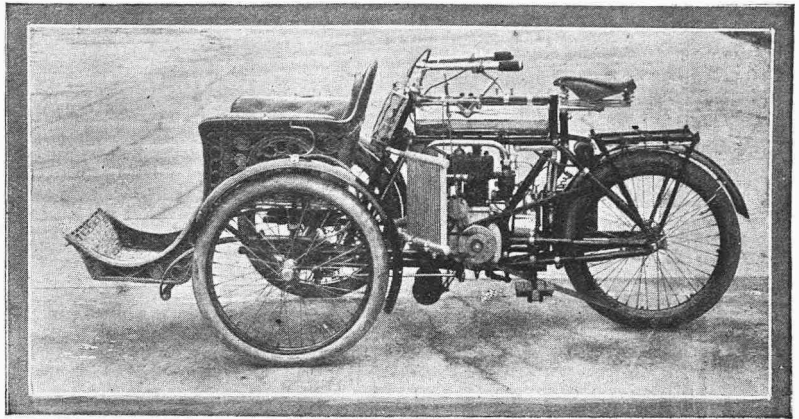
The Midland Motor Co., Ladywood Road, Birmingham, ask us to state that they are reorganising their works and equipping them with new machinery. The company wish to correct the impression existing in some quarters that they were closing the works altogether.

Motorcyclists will await with interest practical tests of the new rubber belt brought out by the Continental Caoutchouc Co. The belt is V-shaped, and has a fabric incorporated into it. It is claimed that it will be free from any possibility of stretch or jerk, and will transmit the engine power without being so tightly adjusted as a leather belt.

Spread of Motoring in India.

GREAT NATIVE INTEREST.

The sport of motoring continues to increase in popularity in India. The recently-formed Automobile Association of Bengal celebrated its inaugural run with a trip from Calcutta to Barrackpur. Eleven cars and six motorcycles took part, the cars including a De Dion, a Cadillac, an Oldsmobile, a Humberette, a Deschamps, a Richard-Brasier, a Wolseley, etc. Several ladies were present. The first stop was at a place called "Emerald Bower," where—with true native hospitality—the Maharaj Kumar Prodyat Kumar Tagore entertained the company to light refreshments. On arrival at their destination the motorists sat down to a welcome "tiffin" provided by Mr. Kinnison, of the Kinnison Jute Mill, Titaghur. The return journey was pleasant but uneventful. All through the run the natives of the various villages manifested enormous interest in the new vehicle, huge crowds assembling directly the cars hove in sight. Expert driving was needed through some of the narrow streets crowded with bullock carts, trams, "ticca garris," and foot passengers. Another run is in prospect, and the prosperity of the new association promises to be assured.



The New Bat Fore-car.

A New Bat Fore-car.

The accompanying illustration depicts one of the latest developments of the Bat Motor Manufacturing Co., Ltd. This is a fore-car of the latest type, with water-cooled engine of 5½ h.p. Circulation is given by pump and thermo syphon. The specification includes Longuemare carburetter, radiator of special design, two-speed gear, free engine, well seat for tools, etc. The fore-car of cane is not only graceful in model, but also provides the passengers with maximum comfort. The tyres are 2½ in., with band brakes on each wheel. It is fitted with the company's well-known spring frame, and, as can be judged from the illustration, presents altogether a most attractive and business-like appearance.

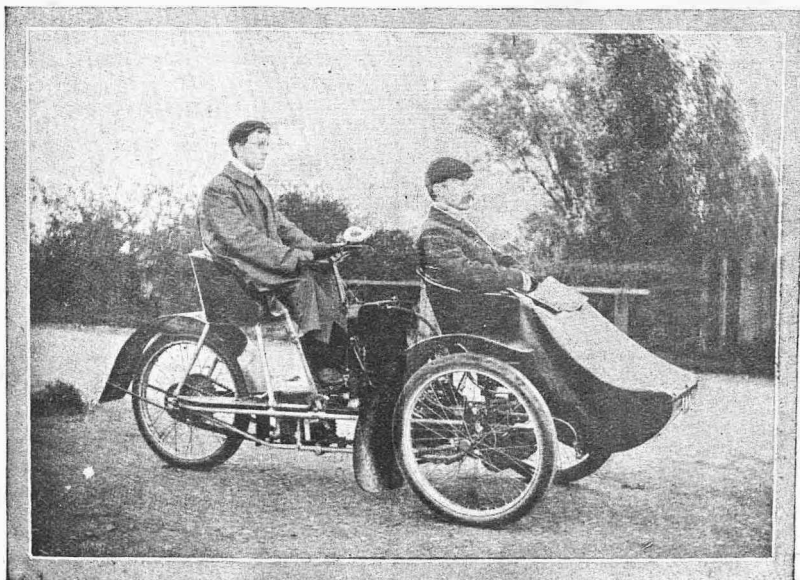
The Ideal Light Car.

"The foundation of any motorcar is the engine and the accessory equipment to complete the motive power, and money expended in the direction of obtaining the greatest power for the least money is well expended; but it is equally clear that a great many manufacturers of motorcars of the cheaper sort are inclined to ignore the personal comfort of passengers, and also the scope of the driver, in the endeavour to supply mere power. . . . Of

course, it may be asking for two things at the price of one, but it is still necessary for makers of light and cheap cars to bear in mind the requirements of the occasional guest on a car . . . for, after all, the man who aspires to a motorcar and can pay but £150 for it, does not look for great speed, and may even put up with indifferent performances on extra severe hills; but we take it that the majority of such buyers require a respectable looking, roomy, and comfortable body!"—Exchange.

The Scarsdale Carrette.

The illustration depicts a three-wheeled car made by the Scarsdale Cycle and Motor Co., 23, Bridge Street, Burton-on-Trent. It is built upon a special framework, of registered design, ensuring a perfectly stable vehicle under all conditions, and preventing all whip and strain at any point, thus making certain that the full engine power is transmitted to the driving wheel. The engine is 4½ h.p. water-cooled, high speed, with extra large diameter, and long bearings. It possesses a patent valve gear, and is fitted with large diameter valves, which are interchangeable. The gear has two speeds forward, giving 6 to 12 miles per hour on low and 20 to 35 on high speed, specially adapted for chain drive. There is a friction clutch and hand starting gear provided. The chains are 1 in. by 5-16th in. roller motor chains. The ignition is the Eisemann or Simms-Bosch magneto system, of the latest rotary type, with advance and retard movement, although the ordinary ignition can also be fitted in addition if desired. All the tanks are made of the best hard rolled copper, of 20 gauge, and made to the company's design. The radiators, which are of special design, have a large cooling surface, and are very neat in appearance. The control is by clutch and throttle. Three powerful brakes are also fitted, the whole being controlled by the Bowden system of wires. The framework is of the best weldless steel tubing. The wheels are 28 by 2½, fitted with large spindles and balls, 10 gauge and 12 gauge spokes. There is a ¾ in. spindle in back hub. The tyres are 28 by 2½ Palmer cord tyres, with extra bolts to prevent creeping of cover. The standard finish is olive green. The seats, cushions, and apron are of the best quality pegamoid. The mudguards are of wood, ¾ in. in thickness, of specially selected material, and stayed in a very firm manner to avoid rattling.



The Scarsdale Carrette.

NEWS.

Yesterday the motorcar was "the rich man's toy"; to-day it is the vehicle for the "man of moderate means"; to-morrow, apparently, it will be the last resource of the man of no means at all, judging from the fact that a motorcar has just been put in pawn at one of the "monts de pieté" in Paris.

The Price of Rubber.

The price of the best Para rubber is just now very high, with a tendency to rise. A year ago the average price was 3s. 9d. a pound; it has risen gradually up to 4s. 6d., and experts calculate that in the event of a hard winter it may touch 6s. before next spring. So that, in spite of the expiration this month of the Bartlett patent, there appears to be no bright prospect of a great reduction in the price of tyres.

The Father of Modern Time-keeping.

Mr. G. Lacy Hillier writes:—"The high standard of modern timekeeping was set up by Mr. Pembroke Coleman when, nearly 30 years ago, he took up the work of an official timekeeper. Mr. Coleman was the first to use a Kew 'A' certificated watch, the first to clock every lap in a 24 hours' race; whilst his methods of recording the results arrived at were complete. All who value accurate timing are indebted to Mr. Coleman, and the regulations for clocking, largely based upon his experience, have been adopted all over the world. A number of motorists were cyclists before the petrol-driven machines were introduced, and I am anxious to get as many names of past and present cyclists as possible in a list of subscribers to a testimonial fund to mark the appreciation of the good work done for sport by 'The Father of Modern Timekeeping.' Any subscriptions sent to me, as below, will be duly acknowledged." We have no doubt that there are amongst our readers a large number who will gladly respond to Mr. Hillier's suggestion. His address is 9, St. Mildred's Court, Poultry, London, E.C.



Toman, the Austrian, and the Laurin et Klement machine which secured him the second place in the international Motor-bicycle Race.

Motor Racing in South Africa.

Queenstown, South Africa, has recently celebrated its first motorcycle race. This was included in the programme of a cycling and athletic meeting, and was much appreciated by the spectators. The distance was five miles, and the competitors were allowed a flying start. The first three were McKay (9 mins. 44 2/3 secs.); Jones (12 mins. 50 2/3 secs.); Poplowsky (15 mins. 26 secs.). The winner rode a 3 h.p. Ormonde; Jones a 2 1/2 h.p. Antelope; and Poplowsky a 2 h.p. machine; so that the result was clearly influenced more by the power of the cycle than the art of the man. Now that a start has been made we may expect other races of a similar character in this part of the Empire.

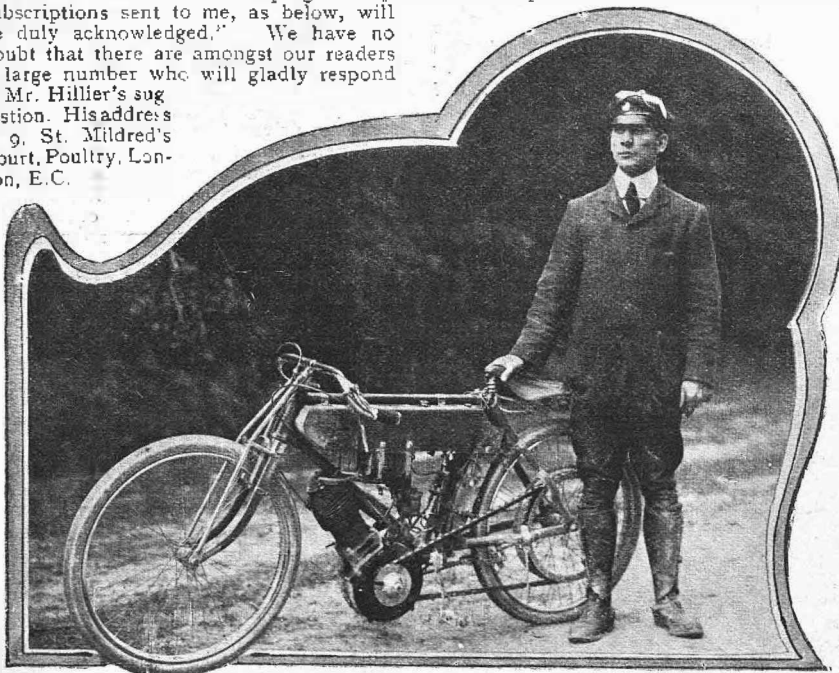
America is following England's lead in appealing against reckless and inconsiderate driving. The Automobile Club of Cleveland (Ohio) has circularised its members, urging them to comply rigorously with all the laws, and to co-operate in discouraging furious driving.

The Motorcar and the Ten-Mile Limit.

Everyone remembers "Punch's" tale of the two village labourers and the stranger—"Who's that, Bill?" asks labourer No. 1. "Dunno," answers No. 2. "Then leave 'arf a brick at his 'ed," says No. 1, concluding the argument. In the recent L.G.B. inquiry as to the need of a ten-mile speed limit within the City boundaries, Mr. Moresby White, who represented the Automobile Club, said there was a good deal of prejudice against the motorcar; indeed, he might call it a case of "Here is something we don't understand: leave a ten-mile limit at it."

Inconsiderate Driving.

A Manchester correspondent writes as follows:—"On Sunday, September 25th 5 p.m., on the road between Bangor and Conway, North Wales, a motorcar (of which I have the number) overtook a four-horse coach (on which I was a passenger) and before it had passed the two leading horses it steered towards the middle of the road, thereby crowding the horses over close to the hedge, to the great danger of the lives of sixteen passengers. There was absolutely no cause for the motorist's action, as far as I am aware, and I think that such conduct is not calculated to hasten the passing of more tolerable laws for motorists.—We agree with our correspondent (who is himself a motorist) that inconsiderate driving of this kind is greatly to be regretted, fostering (as it does) a feeling of animosity against motorists. Our correspondent should—if he is convinced that this particular case was one of reckless or inconsiderate driving—forward the number to the Automobile Club, who have recently made a special appeal to the public to assist them in stamping out the evil. Perhaps, if this should meet the eye of the driver of the car alluded to above, he will explain.



Rignold and the Lagonda Motor-bicycle which he rode in the International Motor-bicycle Contest. Like the other English competitors he was compelled to retire from the race through punctures.

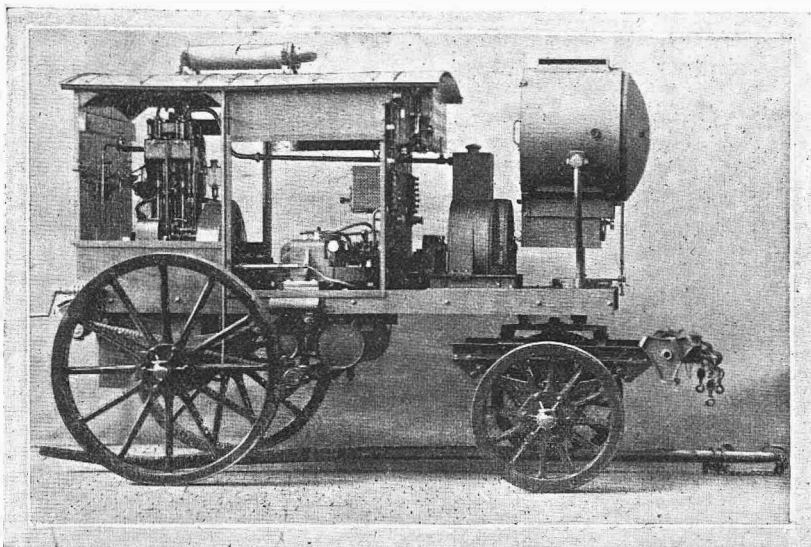
NEWS.

Motorcar Trials in Italy.

At the recent motorcar trials at Brescia, in Northern Italy, the Fiat cars carried off chief honours, in spite of the fact that such well-known French makes as the Panhard and the Darracq were competing. In the event for heavy cars, over a course of 230 miles, Lancia won the "Italy Cup" in the splendid time of 3 hrs. 12 mins. 56 secs.—an average of over 70 miles an hour. Less than three-quarters of a minute behind came Teste on a Panhard. In the light car class a Darracq, driven by Hemery, did the best time—3 hrs. 34 mins. 27 secs. Fiats were again to the fore in the touring class, Gandini, Storero, and Fogolin all piloting cars of the premier Italian firm to victory. France, however, had a friendly revenge in the matter of tyres—all the winning cars being shod with Michelins.

Hertfordshire A.C.'s Open Hill Climb.

The results of the open hill-climbing competition, held at Aston Hill, on Saturday, September 10th, are arranged as follow: 10 h.p. White, 2 mins. 31½ secs.: 10 h.p. White, 2 mins. 50½ secs.: 10 h.p. White, 3 mins. 3½ secs.: 10 h.p. White, 3 mins. 11½ secs.: 24 h.p. Leon Bollee, 1 min. 42½ secs.: 20 h.p. Napier, 1 min. 27½ secs.: 10 h.p. White, 3 mins. 19½ secs.: 12 h.p. Wolseley, 3 mins. 32½ secs.: 16-20 h.p. Martini, 2 mins. 22½ secs.: 6 h.p. Speedwell, 3 mins. 23½ secs.: 12 h.p. Pipe, 3 mins. 26½ secs.: 12 h.p. Wolseley, 3 mins. 54½ secs.: 7 h.p. Alldays, 4 mins. 11 secs.: 10 h.p. White, 4 mins. 41½ secs.: 8 h.p. M.M.C., 5 mins. 29 secs.: 7 h.p. Swift, 5 mins. 9½ secs.: 7 h.p. Alldays, 5 mins. 28½ secs.: 8 h.p. Crypto, 6 mins. 50½ secs.



A motor searchlight used by the German Army. It is referred to on this page.

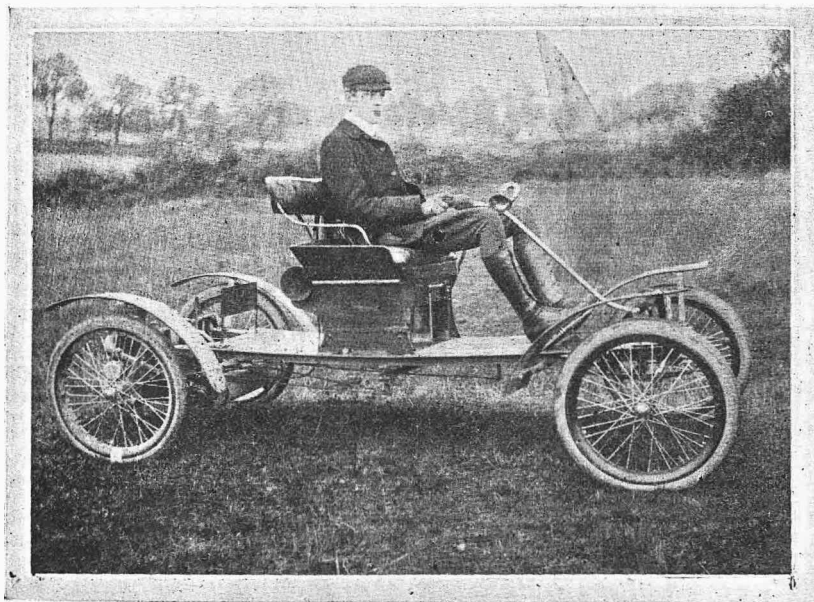
Peto and Radford Extend.

Peto and Radford, Ltd., inform us that owing to the extension of business they have acquired larger premises for their works at Ashtead, where they will be in a position not only to turn out accumulators so as to supply all orders immediately from stock, but also able to accommodate the trade and motorists who may be in the district with anything necessary for electrical ignition. Charging, repairs, and all accumulator work can be undertaken at the new Ashtead premises, which are situated close to the main road, between Epsom and Leatherhead. The old works at Ashtead will be sold by auction at King's Head Hotel, Epsom, on October 14th next.

According to a "Daily Mail" statement, Blackpool's promenade must be the longest in the world—must be of enormous size in fact. Writing of a projected automobile meeting on the front, the "Mail" says that the distance between the two piers is 1,000 kilometres! This is equal to 625 miles, so Blackpool evidently has wonderful possibilities if it only cares to develop its promenade, say, for the Gordon-Bennett race!

Searchlight Motor Wagon for Germany's "Little War."

Our military readers will be interested in the illustration we reproduce of Siemens and Schuckert's searchlight motor wagon, which has been delivered for service in South West Africa, where Germany is carrying on her "little war" against the Hereros. Behind the lighting apparatus, which is detachable, and constructed on the usual pattern as far as the internal arrangements go, the cooling system for the petroleum motor of the dynamo machine supplying the current can be seen. The circular case fitted near the searchlight apparatus itself consists of a ventilator which engenders a strong circulation of air and helps to keep down the temperature of the cooling water in the box-shaped tubular receptacle visible above. A centrifugal pump in the rear of the ventilator drives the water through the cooling chambers of both cylinders of the Daimler petroleum motor fixed over the back wheels. This motor, fitted with the Bosch system magneto-electric ignition, gives 8 h.p. at 500 revolutions. As a particular novelty compared with the old waggons used for this purpose, the motor possesses a benzine-intake device, whereby the former warming, which took from 15 to 20 minutes, is avoided. A switch-lever effects the change from benzine to petroleum. The compound dynamo is connected with the motor by means of leather coupling, and the prolongation of its axis drives the aforementioned cooling device. That cylindrical arrangement on the roof is the silencer. Including the lighting apparatus, the weight of the wagon is 2,500 kilos.



Mr. H. E. Tryon, of the Lincolnshire A.C., on his 4 h.p. Orient (American) Buckboard, which is said to maintain a uniform pace over hill and dale. It received favourable criticism at a recent gathering by the club members.

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.

The Light Motor-Bicycle: "The Motor" Policy meets with a Chorus of Approval.

Sir,—From my copy of "THE MOTOR" received from Smith and Sons I was pleased to note that you are making efforts to secure a much lighter motor-bicycle than is now usually built. As one who has ridden light and heavy machines I beg to tender my best thanks to you for what is being done in this direction.—Yours faithfully, H. SILCOCK.

Sir,—I think your 72lb. motor-bicycle decidedly a step in the right direction. Personally, however, I believe that for all-round work the engine should be 76 by 76 millimetres. I see no reason why such a machine should not be produced weighing 100lb. all on, and no more. Of course, I do not say that this type of machine would do for everybody to use; but in fairly experienced hands it should be just the thing.—Yours faithfully, D. LAKER.

Sir,—For some time I have been interested in the controversy about the merits of the light-weight and of the heavy-weight motor-bicycles. On the one hand, it is contended that the light-weight is superior to the heavy by reason of the ease with which it is handled, and, on the other hand, superiority is claimed for the heavy machine because it is more powerful and faster, and that, although a light and powerful machine is desirable, such a machine for touring purposes does not exist. In my humble opinion, a light and powerful machine is not obtainable because a powerful engine (single cylinder) is too heavy; for instance, I ride a "Griffon" machine with 2½ h.p. Zedel engine, 75 mm. bore, 80 mm. stroke, weighing 38 lb., and the whole machine, all on, weighs close on 150 lb. The same firm make a 3½ h.p. engine, 82 mm. bore, 90 mm. stroke, which weighs 60 lb. Now, a machine built with such an engine cannot weigh much less, with all on, than 180 lb., much too heavy to my liking. The same firm, however, make a twin-cylinder engine, each cylinder 75 by 80, giving over 5 h.p., which only weighs 48 lb., and yet I have not seen a single touring machine built with such an engine. I should think it would be quite possible to build such a machine with little extra complication by using the high tension magneto ignition, but why is it not done? Perhaps your readers with experience of twin-cylinder engines will tell us?—Yours faithfully, A. J. BIND.

Sir,—I read with interest the particulars of your 72 lb. motor-bicycle. This clearly shows what can be done in the direction of weight saving. I would like manufacturers to apply the same principle to weight reduction in the tri-car.—Yours faithfully, TRI-CAR.

Sir,—I was most pleased to note your efforts to show the public and trade that a really efficient and light-weight motor-bicycle can be made. I have had enough of 180-pounders. What I contend is, let those riders who want a heavy mount have their choice; but it is utterly absurd for prejudiced writers to say *nobody* requires a light mount. Surely it is reasonable to suppose that there are many riders who would be satisfied with a nice handy mount that will do 25 miles an hour and take a very fair hill without help from the pedals.—Yours faithfully,

"ANTI-WEIGHT."

Sir,—May I congratulate you on the excellent stand you are making for the light machine? I have ridden a very light small-powered machine for a year, during which period I have been nearly 5,000 miles. I have only once had to pedal home, and that was due to an exhausted accumulator. I can take steep hills of 1 in 8, and do over 25 miles per hour on the level. Both tyres (Clincher) are good for 4,000 miles yet. The only trouble I have had has been through an escape of gas past the ends of the gudgeon pin of the engine to the inside of the piston. I have a two-speed gear fitted which is excellent, as it allows the engine to be stopped down hill. I had a 170 lb. mount before this one, but sold it in disgust.—Yours faithfully, A. DAVIDSON.

Sir,—I was most interested to see that you have designed a new light-weight motor-bicycle, as I am delighted with my "Torpedo," and it is acknowledged to be the smartest thing on the road here, and as regards pace on the flat and hill-climbing powers it lacks nothing, though I think on my machine I get a lot of extra power by using a "Cremorne" carburettor. At any rate, neither of the other Torpedos with the Clement carburetters here will touch mine for power. Trying them on the stand with exhaust cut-out is enough to convince one as to the power, as the explosion is much more marked. My carburettor is fixed with the valve down, and I use it minus nuts and spring. My inlet spring is a moderate one with a bare ¼ in. lift, and I find with a small inlet lift that I get full gas on hills, and do not miss at high speeds; there is no doubt about the mixture when approaching hills. The throttle is butterfly type, worked by Bowden twist handle on right grip, so I have only one lever on top tube. I am sorry you have not adopted an automatic carburettor for your new machine. I would never go back to two levers again. One very strong point appeals to me on your new machine, and that is, the weight of the tank is thrown back. It would be, ready for the road, about 12 lb., thus going a long way to balance the engine in front, 23 lb., hence minimising road shock on front wheel. I find the front forks splendid on my machine, and the only thing that one fears without stays is crystallisation of the steel in time. The silencer would be better carried back, as I find mine heats the crank-chamber; in fact, three machines I know of are the same. Why have you adopted a trembler coil? Aluminium guards look very smart, but they do not stand much rough usage. Could not a light guard be made of some hard non-rusting material and plated. I rode my Torpedo machine 1,100 miles before the small round Clement belt pulled through. The holes I made at the start were good enough for another 900 miles if I had not put the belt on too tight one day. I only broke one hook in this period, and that was too thin for the work. The J.A.P. automatic lubricator I fitted some time ago is a great success and is the right thing. A pump no doubt is good, but a constant supply is miles per hour better with no over or under lubrication, a clean engine, etc. Congratulating you on your efforts to get weight reduced.—Yours faithfully, R. E. GOLD.

SIXTH EDITION.

40,000th

Thousand.

TO
THE MOTOR MANUAL.

The popularity of this book, which is invaluable to the practical motorist, is proved by the enormous demand for it.

Price 1/-

O.P.U.

Sir,—Referring to your article on the light-weight machine, I feel you are on the right track, and I cannot understand manufacturers ignoring the requirements of many would-be motorcyclists. I am convinced that if the manufacturers would study the requirements of the latter class that good business would result. I may say I am thinking of discarding my heavy motor-bicycle and going in for one similar to that described in a recent issue.—Yours faithfully,
G. H. PEARSON.

Sir,—I do not see why a standard pattern mount on the lines you advocate should not meet the requirements of a large class of possible riders. It is neat, amply powerful enough for a rider scaling 10-11 stones, and, given first-class workmanship in the engine and frame, should be as durable as the heavy mount. There can be no comparison between such a type of mount as you have introduced and the early 1½ h.p. Minervas. These machines scaled, all on, about 90 lb. This engine, I believe, when *actually* tested, gave ¾ h.p. Yours gives 2½ h.p. Here lies the difference.—Yours faithfully,
"MINERVA."

Sir,—I am much obliged to you for inserting a former letter of mine re weight question, and only trouble you again because some seem to have missed the point which I raised. I quite agree that, given a perfectly reliable machine which never breaks down, that weight reduction is not of prime importance, and that it may be increased indefinitely with the h.p., but where is there such a machine? I have used a great many different makes, but have not found it. No one can maintain that he will never be stranded, no matter how expert a rider he may be, witness any trial or race, amateur or professional. In June last year I was unable to use one hand for nine days in consequence of a French dog being too inquisitive; what can a rider do one-handed with a heavy machine? On another occasion I had the misfortune to have to cover six miles of pave in the making near St. Quentin. I had to lift the machine a wheel at a time over the enormous stones, and began to envy the convicts at Portland. Again, when riding one night, having been delayed owing to puncture, I dashed into bundles of wood laid in zig-zag fashion on the road. When one loses a contact breaker, even a "free" engine is not much consolation. I could instance many more such cases, and would recommend my motoring friends to try a long tour by themselves, and see what they think of the heavy machine then. I have used a 1½, 1¾, and 2 h.p. of various makes, and know what they can do, and as things are now, I prefer them to the heavy and larger powered machine for a tour. In Germany they charged 7d. per mile carriage (see C.T.C. Handbook, 1903), and most of us would rather keep the money and try and pedal instead. No one could have been more enthusiastic over the sport than myself. I think the time is now ripe for suggestions from riders themselves as to what the future machines are to be, for it is we who have to ride them and not the manufacturers.—Yours faithfully,
(REV.) A. J. M'KINNEY.

Sir,—Though letters containing opinions on the "weight question" pour into your office daily, if you will allow me some space in your journal, I would much like to add my experiences for what they are worth. That this question is one of primary importance is borne out by the successful efforts which you have made, resulting in the production of the most workmanlike "featherweight," as depicted in a recent issue of "THE MOTOR." In my opinion, the choice of mount, heavy or light, greatly depends on whether a man lives in the country or in a large town. Last year my mount was 2 h.p.; this year it is 3½ h.p. Now, when spending my holiday in the country with the turnpike road at my lodge gate my 3½ h.p. machine was just the thing; one vaulted into the saddle and knew one might stay there in peace, with the powerful 3½ h.p. engine thudding away o'er hill and dale. But what another pair of shoes (or tyres?) when in London! It is risky to stand the 160 lb. machine against the curb when shopping, and in traffic, where one is more or less bound to drive on half throttle and with retarded spark, an engine with a bore of over 80 mm. is apt to get hotter than is pleasing to a skilful driver. I do not say that my machine is not negotiable in traffic. By no means; but I consider that



Dropping his "Governor."

there is undoubtedly far more anxiety than when driving a machine such as you have designed. Therefore, I say to him who earns his living (or not as may be!) in London, or in any of our large cities, and who uses his motor to enjoy a breath of fresh air occasionally, by all means go in for a machine of the type you advocate, but to him who lives "out of the hurly burly" near the country roads, I say buy any weight you like, but should you choose a heavy-weight" be sure that you have your carburetter "tuned up" so that the monster jumps away in the first two yards. This, I venture to say, is the whole secret of success with a "heavy-weight," namely, the certainty of obtaining a good explosion immediately on starting off. I frequently start my 3½ h.p. "Ariel" (cold) up a hill, merely because I know my carburetter "to a tick," as the saying is. May I add some remarks regarding the machine which has recently been built to your design. I sincerely hope that it will be exhibited at one or other of the coming shows. The outside fly-wheel type of engine, scientifically constructed, has always seemed to me as likely to be the best type for a light motor-cycle, in spite of the adverse criticisms which have been passed against it. Hill-climbing power and smooth running are greatly enhanced by this design of engine, two features which I venture to sug-

gest go a long way towards ultimate perfection. The main portion of the frame from the top tube to bottom bracket being left devoid of tanks shows that the questions of (a) suitable grip for lifting machine and (b) accessibility of engine have been carefully studied. The only alteration which I personally would suggest would be to fit two-inch tyres back and front. This, it is true, would add weight, but surely the economy derived from the tyres being interchangeable would counter-balance this difference. In conclusion, I would offer my heartiest congratulations to the designers of the most workmanlike light motor-bicycle yet put before the readers of "THE MOTOR."—Yours faithfully,
A.H.26.

Sir,—Referring to the light-weight motor described by you on page 180 of your issue of September 20th, I suppose that the question of price has received your attention? If this new motor can be put on the market to sell at, say, £40 to £45, it would have a ready sale. Now may I pass a few remarks on the motor complete? The frame naturally demands the first attention, and I am of opinion that if it had a cross tube fitted below the petrol tank it would be considerably strengthened, and the addition in weight, including extra fitting, would only be about 2lb. at the most. With regard to the tyres, I have read in your paper, and also have had it as an axiom from the principal makers, that roadster tandem tyres are unsuitable for motorcycles. Now, at the expense of another 3lb. weight would it not be advisable to fit the "motor" tyres? Another point in favour of the heavier tyre would be the increased freedom from punctures. Light pedal gear: this is an improvement in the right direction at last. The tendency of cycle makers of to-day is to eliminate the pedals altogether; but with that I cannot agree, for the reason that no motor is absolutely safe from risk of mishap in a 1,000 mile test. Of course, I do not refer to any of the fancy machines we see entered for hill climbs and record breaking, but to the standard type of motor. I again express my pleasure at the neat and scientific way that the parts are fitted. Another and perhaps the most interesting point is the side-slip question. Although I have taken a keen interest in the side-slip discussion in "Cycling," I have refrained from making any remarks about it, but think that with the 22in. frame, 26in. wheels, and 49in. base you have adopted, gives as near complete immunity from side-slips as can possibly well be. The machine I am riding now is a Clyde, 24in. frame, and 26in. wheels, and 51in. wheel base, and I can ride through the greatest roads, over tram-lines, and through crowded traffic without the slightest fear of side-slip, so can speak well of the extended base. Another point which I would like to point out to your readers is the way the weight on the new machine is distributed, and the lowness of the centre of gravity. Notice the length of the belt drive. Scientific design again. I will not further encroach on your time, but must compliment you on your splendid success. Surely, now, our friend the Rev Mr. McKinney has found the type of mount which he has been looking for?—Yours faithfully,
"C.R. 208."

[A number of letters dealing with the subject of light motor-bicycles are unavoidably held over.—Ed.]

Outside Fly-wheels.

Sir,—In a recent issue of "THE MOTOR" I noticed a remark by a correspondent to the effect that it was impossible to fix an outside fly-wheel in a satisfactory manner. I fitted an outside fly-wheel to a taper on shaft with key and lock-nut, and the result was a scrapped crank shaft after a hundred miles' running, the key shearing half a revolution. A perfectly satisfactory method is to fix the fly-wheel on to a fine taper (1-16th in one inch) and pulled up tight with nut on shaft. I have run my machine a few thousand miles with no trouble from this source. The fly-wheel, when fitted without key, allows the shaft to turn a fraction of an inch each explosion, but, of course, this is absolutely inappreciable.—Yours faithfully,
G. DE H.

Cremorne Carburetter.

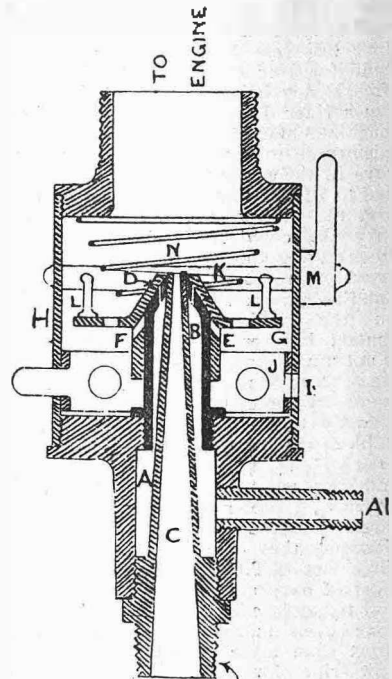
Sir,—Referring to enquiry from "M.C.J." in a recent issue, I have used the Cremorne carburetter nearly all the season with petrol, but not with paraffin, because I have not connected the warm air jacket to the exhaust. I mean to try this soon, but I have had such splendid results after considerable trouble with a float feed spray that I have been content to continue the use of petrol without taking the time to fit the extra tank for paraffin. I use a size "A" carburetter with an engine of 3½ in. bore, driving a fore-carriage. With the old carburetter I had very serious overheating. When fitting the Cremorne I also put a throttle valve between it and the engine; the combined change has made a wonderful improvement. Overheating is almost unknown, and the machine now takes hills that it would not negotiate before. I run on the level with throttle about two-thirds closed; the valve never sticks with dust and never leaks, in fact I do not trouble to turn off the petrol when making a stop unless it is for a long time. I can set the needle-valve when starting out, and run all day, and at all speeds, and never touch the mixture. With the old carburetter I was compelled to adjust for every change in speed. Running a good share of the time on too rich a mixture with the old carburetter, as well as the absence of the throttle, was responsible for the overheating. I could run on a weak mixture only part of the time, as the adjustment required continual changing. I wish to add that I am not interested in any way with the sale or manufacture of the Cremorne carburetter; I simply give my experience for what it is worth to readers of "THE MOTOR."—Yours faithfully,
"AC211."

An Improved Patent Spray Carburetter.

Sir,—The following details of a spray carburetter I have patented may interest your readers:—My invention consists of a base bored to form chamber (A) and inlet (A1); in the top of chamber (A) is screwed a hollow sleeve (B) with a conical end, and a hole bored through about 3-16th in. Through this sleeve (B), about half-way down the cone, two fine spray holes (D) are drilled. Screwed from bottom of base and passing through chamber (A) is a long, tapered nozzle (C), the end of this nozzle is turned to fit and make an air-tight metallic joint in the 3-16th in. hole in end of sleeve (B); on the outside of this sleeve a nozzle (E) is fitted, free to slide up and down, and

bored with a conical end to correspond with sleeve (B); these two faces are ground together to form a valve and seat which close the spray holes (D). Through the side of nozzle (E) four holes (F) at the same angle as and near the face of cone are drilled; fitted on this nozzle is a thin disc (G) having a circle of holes near the centre, the whole is enclosed in a cylindrical case (H), which has six or more holes (I) round the bottom to admit air, inside case (H) is fitted a rotary slide having holes to correspond with case, which is adjusted by a small lever outside. Through the top of case (H), just above disc (G), is a spindle (K), carrying two pawls (L), which press on top of disc; on the end of spindle is a lever (M), resting on disc and top of case is a light spiral spring (N). Connected to the bottom of nozzle (C) is a tube which is coiled round exhaust pipe. The mode of working is as follows:—The suction from engine draws air through the holes (I) in case (H) and passes through holes in disc, which lifts to the height the pawls are raised. The petrol in chamber (A), which is fed from a tank, flows up sleeve (B), passes through spray holes (D), it then meets a column of air which is drawn through the holes (F), passing between the conical faces of sleeve (B) and nozzle (E), it then flows in a fine spray from end of nozzle; it then meets a column of hot air which is drawn through the coiled tube round exhaust pipe and up through nozzle (C). The spirit or oil is sprayed with a column of air each side of it, which thoroughly vaporizes it; by this improvement stale petrol, paraffin, or naphtha can be used without the least trouble. The adjustment of air and spirit is worked by Bowden wire, or any other convenient arrangement.—Yours faithfully,
C. F. N. HALL.

22, McBride Street, Garston, Liverpool.



COILED TUBE SCREWS ON HERE

Illustrating letter from C. F. N. Hall.

O.P.U.

A Police Trap.

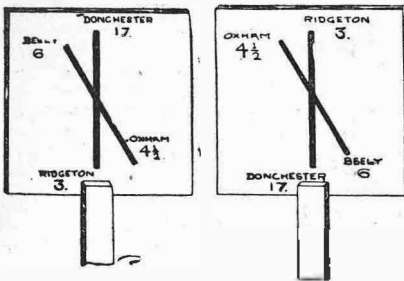
Sir,—May I inform your readers of an active police trap on main road London to Coventry via Dunchurch? It commences after leaving Dunchurch one mile, and proceeds in the direction of Coventry for two miles at intervals.—Yours faithfully,
A. WALDEN.

Belt Transmission for Tri-car.

Sir,—If "Fortex" will try a 1½ in. V-shaped Elswick belt he will find it unbreakable, and one which will efficiently transmit the power of a 5 h.p. engine for many hundreds of miles. No doubt Mr. F. L. Anderson, 1, Furnival Street, London, E.C., would have one specially made for him and sewn with a double row of copper rivets similar to the one he had made specially for me. Considering its size and enormous strength it is a very cheap belt. I have no interest in the makers or Mr. Anderson beyond the fact that the latter is most obliging to his customers.—Yours faithfully,
GEORGE S. RUSSELL.

Finger-posts in the Country.

Sir,—I should like to draw the attention of those who are in charge of our public roads to the disgraceful condition of many of the finger-posts in country districts. I have seen some so weather-worn and blackened that they were barely



Illustrating letter from V.P.K.

legible at a yard's distance, and that when I was standing still. It is time such hieroglyphics were removed, and while the authorities are about it, it would be as well to put up something that can be read at a reasonable distance. So often is it necessary to ride right past the boards in order to read them, and then to find oneself very likely in the wrong turning, that we require a new method of indicating routes. Perhaps readers of "THE MOTOR" would send in suggestions. Meanwhile here are two, which strike one off-hand: (1) Extra boards should be put up 20 yards before the cross-roads or branch-roads, showing the route clearly; or (2) larger boards should be erected, facing both ways and bearing a map, as it were, of the cross-roads (see sketch). This should always read from bottom to top, and one side would, therefore, be the reverse of the other. Another difficulty for the motorist is that of finding his way in a large town. There is usually a total lack of directions at the street corners, and much time is wasted, either by stopping from time to time to ask the way, or by going astray in an attempt to find the way unaided.—Yours faithfully,
V.P.K.

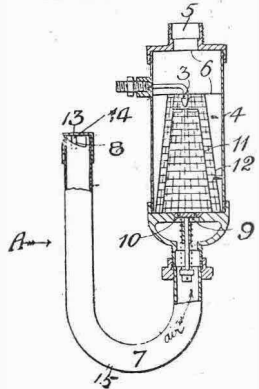
O.P.V.

The "Trusty" Carburetter, etc.

Sir,—I have a small oil engine, 3 in. bore, 6 in. stroke, and I want to fit it up with electric ignition, mechanically operated valves, and a "Trusty" carburetter which I have. Would any of your readers be kind enough to give me their experiences with the "Trusty" carburetter? Does it require very high compression? Would it be essential to have the valves water cooled, and what area ought they to be? What power and speed ought I to get out of this engine? Where can I get details of wiring for the De Dion non-trembler coil?—Yours faithfully,
MAURICE BECK.

A Drip Feed Carburetter.

Sir,—In looking over "THE MOTOR" for last month I noticed in your "O.P.V." column (of August 2nd) a drawing of a wick carburetter from a correspondent signing himself "Hydro-Carbon," in which he employs a drop feed for petrol supply, which is one of the principal features in my carburetter, which is patented. I send you a sketch of the carburetter as made in metal. It can be made with glass body with petrol feed on lid. In my present machine (an Ormonde) I regulate the petrol with the usual needle valve. A lever is attached to top of valve and engages in notches of bridge, fixed to frame of machine, and can be set to drop from 20 to 120 drops per minute, according to speed desired. The carburetter can be easily understood. I have had it on my machine for eight or nine months, and have not had to take it off for any cleaning or repairs whatever, and I expect it will last as long as the machine. A few of the advantages I claim for it are: Great economy, engine kept free from dust and requiring very little lubrication; nothing to get out of order; no hot air required; free passage of air to engine; no throttle required. Less suction on engine; cooler engine, with more power as a result of only passing in a cold mixture and keeping cylinder free from sand, etc. I can guarantee my 2½ h.p. machine to run over 100 miles with trailer and passenger on one gallon of Pratt's petrol. If without passenger as much as 150 miles can be covered. I may also mention that the machine is self regulating and can run at very low speeds without missing fire. The numbered details in illustration showing a section of the device are as follow:—



Illustrating letter from R. Smith.

(3) direct drop feed, (4) body of carburetter, (5) gas supply pipe, (6) gauze, (7) air inlet pipe, (8) air regulator, (9) air inlet valve with several small holes, (10) valve seat, (11) inner gauze mantle with metal cup-shaped top, (12) outer gauze mantle, (13) air inlet, (14) air inlet, (15) small hole in inlet pipe covered by clip (not shown).—Yours faithfully,
R. SMITH.

149, Blackness Road, Dundee.

The Waiawata Belt.

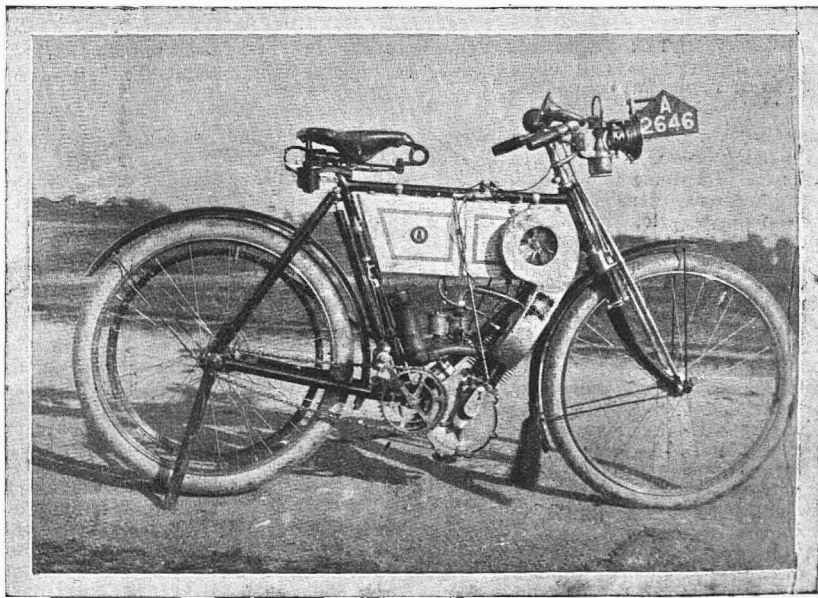
Sir,—I see "A.1914" complains of his Waiawata belt jumping the pulleys. He will certainly find the explanation of this trouble in the machine and not in the belt. If he is incredulous, I can only assure him I have used these belts on several cycles for long distances and had no such trouble. A very small error in aligning the pulleys will cause this trouble, and he should test them again. Failing this, his engine may not be rigid on the frame, especially if it is not in a "cradle." In that case the pulleys may be aligned when at rest, but driving strains may jerk the engine ever so slightly out of position. I experienced trouble from this cause on an Excelsior, and also on an Ormonde machine last season, and it is not easily detected.—Yours faithfully,
B. H. DAVIES.

Successful Fan-cooling.

Sir,—With regard to the question of fan cooling for motorcycle engines I should like to give my experience, which may perhaps be of some interest to other readers. My machine has a 2½ h.p. Minerva engine, and has a gear of 5 to 1, with a 28-inch back wheel. This gear I found very suitable for the cycle alone, giving plenty of speed on the level and ample reserve of power for hill climbing. With a trailer, however, I found the engine overheated rather badly, even on moderate gradients, with the result that the passenger had to do rather more walking than was altogether agreeable. I also found that I could not have the gear ratio altered without extensive alterations to the machine. Remembering Prof. Callendar's experiments on air cooling, I resolved to try a fan on the engine, but was met with the difficulty of finding room anywhere on the frame of the machine for attaching it. Finally I hit on the arrangement shown in the illustration. The fan case is made of sheet tin and it attached to the tank by three studs and nuts. The case is a fixture with a sleeve containing ball bearings, which sleeve is in turn carried by a tube soldered through the petrol tank. The spindle projecting on both sides, carries at one end the fan blades, and at the

other end a pulley driven from a supplementary pulley on the engine shaft, by a 3-16th round leather belt. By this arrangement, on removing the pulley from the spindle and unscrewing three nuts (less than a minute's work) the whole fan can be removed without interfering with the adjustment of the bearings, leaving the engine clear for inspection or repair. The fan and fittings weigh approximately 2 lb. The outlet of the fan is about 3 in. long and 2 in. wide, and embraces a portion of the head, the exhaust outlet and the top portion of the exhaust valve spring. It gives a good blast of air where it is most required, viz., across the head and between the top ribs, especially at the back where the cylinder is shielded from the direct draught.

I find in use that the fan is a great improvement, and though I must say that overheating is not entirely got rid of, I can, with careful driving, surmount, with a trailer, an eight stone passenger and about 20 lb. of luggage, without pedal assistance, hills that formerly I had to dismount and walk. As an instance, on a trip to Coventry and back this summer I negotiated all the hills without dismounting the passenger, and only had to assist the engine by pedalling up Hanger Hill, Ealing; Holywell Hill, St. Albans; one hill between Towcester and Weedon, and on the return journey up Elstree Hill. I have also managed with the same load the climb up High Street, Guildford without pedal assistance, though on the outward journey I had to assist by pedalling up the hill out of Guildford on the Farnham Road. This, I know, is not a very severe gradient, but the last time I went up this hill I passed a 2 h.p. Minerva and a 2½ ditto which were being pushed up by their respective drivers. Altogether I am very well satisfied with the results so far obtained and I can readily see that this type of fan would be of still greater advantage on a machine with fore-car attachment. I may say that this type of fan is being fitted by the makers of my machine, Messrs. White Bros., 216, King Street, Hammersmith.—Yours faithfully,
W. J. COLEBROOK.



Illustrating letter from W. J. Colebrook.

O.P.U.

An Experience with a B. and M. Coil.

Sir,—I should like to hear of a similar experience and explanation of the following:—About six months ago I bought a B. and M. plain coil. After fitting same to my 2 h.p. machine, I found the platinum points (which were pure metal) burnt away very fast. Everything was done to stop this, but all attempts failed. I was adjusting the trembler blade on one occasion, when I noticed the great sparking that was taking place at the points; I put this down to the coil taking too much current, so I connected the wires to half the accumulator, so as to use only two volts. I have run the machine about 800 miles since without one misfire, and on examining the points I find them untouched. Other motorists whom I have told this to tried to run their machines on two volts, but could get no spark. Experts say that the coil is a very good one, but I always thought that a good coil should have a good resistance, and, therefore, would take more than two volts to work it. Hoping this might be interesting to your readers.—Yours faithfully,
H.W.T.

said new piston rings had been put in, as the existing ones would require replacing at some future time. When I wrote them, asking for the return of the engine and all the parts they had replaced, I was informed their system was that all repairs must be paid for before leaving the works, and an absolute refusal to return the parts, which obviously were my property. Now, sir, having many years' experience as an engineer, I am certain the whole of the repairs necessary could have been executed for about 50s., and I would strongly advise all your readers when requiring repairs to get an estimate first, and then only send the parts that are necessary. My machine was running in good style before the accident, and I cannot say it is any better for the five guineas spent upon it.—Yours faithfully,
"ONCE BIT."

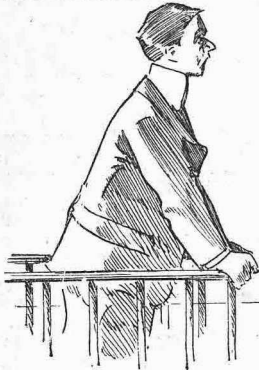
Tyres in the Tropics.

Sir,—In the issue of "THE MOTOR" of August 9th it is laid down that above 35 degrees centigrade, or 95 of fahrenheit, pure indiarubber, such as is used in the ordinary rubber solution for repairing pneumatic tyres, becomes soft. Hence a patch on a tube in this country (India) is a weak factor in a tyre, and tends to blow off, although I must confess that patches in practice do not come off provided they are put on carefully. The vulcanising

has made a great advance in the Colonies and India in the last twelve months, and the facilities for procuring accessories, as well as certain types of cars, and motor-bicycles, transport of petrol, re-charging accumulators have enormously increased. In this country, as far as I know, there are no means of getting repairs done satisfactorily, but no doubt some of your Indian readers could give the necessary information.—Yours faithfully,
A. C. WALKER.
Basti, India.

Handlebar Control for Motor-cycles.

Sir,—As the pioneers of handlebar control we were greatly interested in the article on the subject in your issue of September 13th, signed "B.H.D.," and in the suggestions and criticisms of the writer. The subject is one of universal interest, and practical suggestions from your readers should do good in improving this valuable method of control. We agree with "B.H.D." that handlebar control should be as simple as possible, and that has always been our aim in the system which we have adopted. As regards his complaint of the smallness of the trigger of the Bowden exhaust lifter, we have very much enlarged it, and three or four patterns are now made of which the rider may have his choice. It is fitted with a clip or ratchet to hold up the



INCRIMINATING.

MAGISTRATE: "Some most suspicious tools were found upon you!"
PRISONER (charged with loitering during the "small hours"): "Upon my honour, your worship; simply my bag of motor repairing requisites."

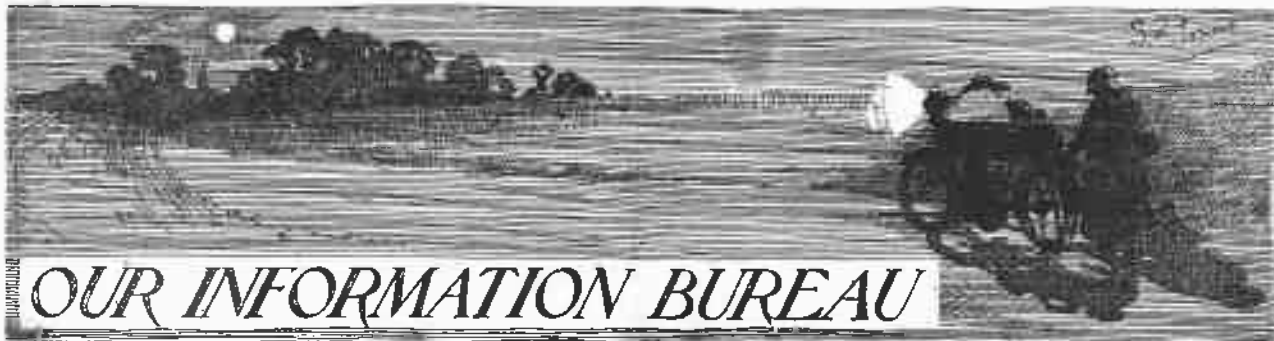
Extortionate Charges for Repairs.

Sir,—Being one of the latest victims to the above, permit me to give a word of warning to your readers. The carburetter of my motor-bicycle, from some unaccountable reason, suddenly burst into a mass of flame whilst running the machine on a stand. Before I could get the flames under, parts of the machine had sustained a certain amount of damage. I disconnected the engine, and sent this with the carburetter to the makers with instructions to repair all parts damaged by fire. After some delay I received an invoice for £5 4s. 5d. Thinking this a most exorbitant charge, I wrote asking for details of the work done, and was told that a new inlet valve fitted with a cotter instead of a screw had been put on (but I found on examining same they had only put in the stem part new); new exhaust valve—the old one, they said, was too short, although, as a matter of fact, the new one is exactly the same length. They also

apparatus should be a boon to all users of pneumatic tyres. I have tried solid tyres, and consider that the disadvantages are more than compensated for by the freedom from worry when starting out for a ride. The roads in these parts are generally good, and pneumatic tyres are really a luxury, though, of course, for cycles they are a necessity. As to ignition, a magneto is the most convenient form for those who do not live in the Presidency towns, and cannot readily get their accumulators charged. Personally, I have found dry cells as efficient, though no doubt a good deal depends on the kind. As to petrol, Assam petrol is quite satisfactory, and half the cost of the American variety when delivered. The former being procurable from Calcutta, and the latter from Bombay, the proportions will naturally vary according to the freight charged. The Assam petrol has a rank smell of its own, but I have not found any appreciable fouling from its use. There is no doubt that motoring

lever when required, and it is released by means of a small steel trigger. As to the clutch, there is no reason why it should not be operated by the lever on the bar as he suggests, but in actual practice we have found that this is seldom required, and that it is more conveniently placed on the top tube. As regards the throttle; in our system it is worked by a twist handle, by which one can judge how far it is open. This can easily be "nicked," but it is hardly necessary as the rider soon knows by practice exactly what he is doing. In respect to the air control, we make a little screw adjustment near the handle, by which the air supply to the carburetter can be regulated to a nicety. As to No. 5, spark advance, we quite agree that it should be on the handle, and do not think that there can be any better method than the twist handle, as half a turn of the wrist governs it at once.—Yours faithfully,

E. M. BOWDEN'S PATENT SYNDICATE,
LTD.



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.

L. M. Miller (Lucknow, India).—We have put the matter you write us about in hand and will do our best for you.

Can any reader oblige P.B.I. (Dresden, Germany) with the address of a motor accessory firm in Paris named Cintrat?

"Petrol" (Witton).—(1) If you have a 19-inch belt rim fitted it will suit your engine nicely. (2) The power of engine would be $2\frac{1}{2}$ h.p. approximately.

"Attr" (Streatham).—(1) Have you considered the Phoenix gear? This would come out at a higher figure than you specify. In fact, we do not think you could get the conversion done satisfactorily at the price you limit yourself to. (2) Pleased to hear you have found the Watawata belt suit your $3\frac{1}{2}$ h.p. fore-car so well. As a rule, fore-car driving by belt puts a very severe strain on the latter, much more so than a motor-bicycle.

Length of Spark.

J. Newcome (Grantham) writes:—With a "Brevete" trembler coil what length of spark should I get when the high tension cable is disconnected from plug and current made to jump to engine? Mine will only give a $\frac{3}{8}$ ths inch spark; is this enough, as some coils I know will give sparks that jump an inch? If you think coil is wrong where can I send it to have it put right (all low tension connections are perfect, also accumulators)? How can I test a coil?—The length of spark from different coils varies very much; $\frac{3}{8}$ ths inch is, however, quite enough. Some coils give long and thin sparks, others short but thick; these latter fire the gas quicker, as the heating effect is more intense. You can only test a coil for current consumption by means of an ammeter placed in the primary circuit.

"Launch."—We should say that the Model B 24 mm. outlet two-cylinder Longuemare carburetter would do very well. The 24 mm. is the diameter of the supply pipe. You can get larger sizes. This carburetter is listed at £5 15s.

A.P. (Beckenham).—We do not see anything wrong with the wiring you have. We should, however, advise you to write the E.I.C. people, Ilighgate Street, Birmingham, for their handbook, and compare the diagrams of how their circuits are made.

B. Walker (Kirkby Stephen).—(1) Try a dressing of castor oil on the leather. (2) The Civil Service Motor Agency, Featherstone Buildings, High Holborn, have a good number of different makes of motor-bicycles that can be inspected. (3) Rover, Phoenix, Quadrant, Excelsior.

J. H. Yule (London, S.E.).—Yes, it is quite true that too much spark advance will slow the machine, as it causes premature firing. It often leads to a broken crank-pin or connecting-rod. The lever quadrant should have a stop on it to prevent advance of spark more than one-third down on the compression stroke. The manipulation of the spark lever you will learn best by experience. Remember not to have the spark advanced if the engine is labouring in climbing a hill.

Petrol Consumption.

J. H. Jackson (W. Dulwich).—It seems clear that the heavy consumption of petrol you refer to is due to having too large a sprayer. You will have to experiment with two or three sizes of sprayers and choke tubes before you get the best result. You could block up one or two of the slits in the sprayer you have on now. The average (petrol) consumption would be one gallon for 80 to 100 miles. The knocking is undoubtedly due to pre-ignition: retarding the spark will not stop it, because the charge is fired from incandescent particles in the combustion chamber.

INDISPENSABLE! "The Motor Strip Maps."

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J. Holmes (London, E.).—You could have the engine fitted to a Chater-Lea frame, but this would cost you very much more than having an extra tube put in your present frame. The clamp on the engine, of course, is specially intended to grip the diagonal tube.

W. H. Winterburn (Christchurch, New Zealand).—Thanks for your interesting letter. We are always pleased to hear from our readers abroad; if you have any interesting items, send them along. We congratulate you on getting such excellent work out of the small powered motor-cycle you have.

Dr. Fulton (Dunedin, N.Z.).—We anticipate that several tri-cars on the lines you mention will be placed on the market next season. We are pleased to hear that you have found the light 2 h.p. machine so eminently successful. There is no doubt whatever that a really well-constructed light 2 h.p. machine will fully meet the requirements of numerous prospective buyers.

R. H. Baskerville (Manchester).—As you were getting a new machine you should have kept the old number and had it transferred to it by notifying the registrar. It is just as easy for the purchaser of the old machine to register it, unless you wish to save him 4s. Then your number could be transferred to him. You must not retain the number on the machine you have just obtained unless the seller has had it duly transferred to you. This is most important.

Accumulator Charging.

W.B. (Bury) writes:—I wish to know how to charge a 4 volt 7 amp. hour accumulator, charging rate 1 ampere. The Corporation supply here is 220 volts; how many 8-candle power lamps, and in what manner shall I connect same to charge above accumulator from this supply? And how long must the same be left to charge?—In brief the method is as follows:—Use a switch controlling not less than three lights and not more than seven. Have the switch "off," and find by means of pole-finding paper which is the positive contact of switch. Then join accumulator across positive terminal to positive of switch and negative to negative. Leave in the "off" position all time. When cells gas strongly they are charged. If you use the smaller number of lamps the charging may take 14 to 16 hours as the current is so small. With seven lamps in circuit it would take eight hours only. This is, assuming the cells are quite discharged. Of course if this is not the case the re-charging will take less time in proportion to the amount of charge left in.

BUREAU

H. Brown (Dublin).—Your best plan is to rig up some separate small resistances for charging the small cells. Lamps at such a low voltage would be of no use.

J. B. Clive (Berkswell).—Numerous answers to similar queries to yours have been given. Either your contacts are not genuine platinum, or the coil is of an inferior quality and causes heavy sparking at the make and break.

A. L. Willmott (Ealing).—If you are sure that the accumulators and wiring are in first-class order, we can only suggest that the coil you have wastes the current. You would not be likely to effect an improvement by changing to a different type of contact breaker. The only thing to do would be to get a good coil using not more than 1 ampere of current.

W.H. (Herne Bay) writes:—(1) Single tube pneumatic tyres being seemingly cheaper to manufacture than the double tube variety, what is the obstacle to their more general employment? Is it (2) owing to the difficulty of effecting satisfactory repairs in case of puncture, etc. Single tube tyres have never been popular in this country, or we might say Europe generally, though practically universally used in the States. The disadvantages are (1) difficult to make permanent repairs to bursts or punctures. (2) They usually have to be cemented to the rim. (3) They are not the equal of the best detachable tyres in respect of resiliency and durability.

Clutch Difficulty, etc.

"Suttonian" writes:—(1) The clutch of my 8 h.p. car (M.M.C.) has taken to squeaking after each few hours' run, while at starting although the pedal forces the clutch well inwards the latter usually fails to free from the flywheel, and so I cannot get the gear in. No signs of wear, and repairers say it only requires petrol and castor oil dressings, which, however, have not much effect. Can you please advise me? (2) What is likely cause of compression varying considerably in strength from day to day or during a day's running, engine kept clean and flushed occasionally with petrol or paraffin? Has over-oiling anything to do with it? I was advised to lubricate engine at least every 15 miles, but appear to get stronger running when going over 20 miles to a charge, but fear damaging engine.—(1) We believe that a thorough cleaning of the clutch leather with paraffin would cause it to work better than it does. It is not advisable to use castor oil unless the clutch slips badly. (2) The cleaning out of the cylinder may have a lot to do with the variation in the compression, as this washes the film of oil from the cylinder walls and then some of the compression gets past the piston rings. Another reason is oil depositing on the inlet valve seating and preventing it shutting as gas-tight as it should do. A few drops of petrol run through the valve each day before starting would ensure it being clean. Then there is the question of the quality of the oil. Some oils run as thin as water and you can never get good compression with them. Are you sure the piston rings are in good order?

W.H.P. (Nottingham).—A quarter-inch hole would not be large enough to relieve the exhaust through a cut-out. Better make it half-inch; or, if this would weaken the exhaust pipe too much, make a slot of equivalent area.

W. H. Osborne (Sydney).—There is no gear we could specify at present that could be very easily adapted to your particular make of machine. Your best plan will be to watch the developments in two-speed gears particulars of which will appear from time to time in "THE MOTOR."

O.R.C. (Chester) writes:—There is a broken tooth in the large gear wheel of my motor. Can this be repaired, or will it be necessary to get a new gear wheel?—It would not be possible to make an effective repair on so small a wheel. You should not have much difficulty in getting a new one fitted.

Belt Difficulty, etc.

"C.E.194" writes:—I ride a 2½ h.p. Excelsior motor-bicycle, 1903, M.M.C. engine, surface carburetter, V belt drive, make and break contact, and shall be glad if you will give me information on the following points:—(1) I have lately been troubled with the belt flying off the pulley, generally when getting under way, advancing spark and giving engine more gas. Belt is in good order, and the right tension. I purchased it from a local dealer, who highly recommended it, and as I was stranded I had to have it. Recently I came from Norwich to within about ten miles of Cambridge without a hitch, till after I had dismounted at a railway crossing and tried to start, then the belt flew off, and was continually doing it all the way home. Is it the fault of the belt, and can it be remedied, or what make would you recommend me to purchase? (2) Is a side-carriage to be recommended in preference to a fore-car, both as regards expense, comfort, and manipulation? Is the side strain detrimental to the machine? (3) If, when travelling about ten miles per hour, I switch off current at handlebar, engine, of course, stops, and machine gradually slows up until nearly at a standstill, when without current being on it fires again, and tries to pick up speed again. I must then cut off gas and spark to stop it. Can you explain this? (4) I purchased the machine with no front mud-guard, which had been removed to keep the engine cool. I now get in a terribly muddy state, and radiators, etc., the same. Would you advise refitting mud-guard, or would it prevent engine from getting air? (5) Is a cooling fan necessary for side-carriage work?—(1) Belt could not have fitted the pulley groove properly. The angle of one side of the belt was probably greater than the other, which would give the belt a twist. Try a Watawata, Lycett, or Lincona, and see pulley groove and belt fit exactly. (2) All a matter of individual opinion. A side-car runs all right on the whole; it is perhaps not so mechanically correct as the fore-car, and takes a little more power and is harder to steer; but opinions vary greatly. (3) Engine overheats occasionally, and inside of combustion chamber gets red hot in parts. This fires the gas spontaneously. (4) Yes, certainly fit a front guard; it should not interfere with the cooling of the engine. (5) Not absolutely necessary, but an advantage certainly, especially as your engine is 2½ h.p. only.

W.R. (Dumfries) writes:—May I ask your advice re the securing of head of crank shaft pin of 1½ h.p. Minerva engine? The screws (three in number) work loose every 150 miles. I had new pin fitted, but still experienced the same trouble, causing rattle, loss of power, etc. Would fitting longer screws and riveting the ends remedy the fault? Though a constant reader of your valuable journal, I do not remember seeing any hints on a similar matter.—We fancy the screws are rather a slack fit. Probably the method you suggest would be as good as any.

ANSWERS BY POST.

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

Thursday, September 22nd.—G. Canney (Huddersfield), T. H. Weeber (Lower Weeden), J. Emmerson (Biggleswade), J. H. Lorimer (Barnes), W. Nicholson (Randalstown), L. Clarke (Eydon Byfield), E. J. Wheeler (Woodford Bridge), T. Gordon Kelly (Desford Grange), F. Coppel (Rugby), C. C. Strick (Swansea), M. L. Fraser (Glasgow), H. Lawrence (Liverpool), H. T. Vine (Eastbourne).

Friday, September 23rd.—H. Curtis (Blandford), A. Dobell (Trowbridge), G. Terry (Bamford), J. W. Brown (Ashbourne), T. Bambridge (Willington), W. Ormsby (Roscommon), D. Laker (Sudbury), J. Chappell (Ogmore Vale), S. Wellby (E. Liss), J. Wharran-Brown (Hull), A. E. Ord-brown (London), E. Holdsworth (Burnley).

Saturday, September 24th.—A. E. Malden (Kettering), W. S. Jarrett (Sidcup), J. V. Yates (Warwick), T. Considine (Dundrum), J. S. Dickin (Southport), H. Hocker (Eccles), J. B. Mullen (Whitley Bay), R. M. Davies (Brentwood), W. Child (Canning Town), G. Dawson (Glasgow), W. E. Axford (S. Croydon), J. S. Almsby (Lesmahagow).

Monday, September 26th.—J. Dickenson (Newcastle), H. Rooml (Derby), W. J. Whittle (St. Mary Cray), J. Nicholls (St. Ives), J. B. Readman (Mynde Park), J. Broad Bissell (Bishopsteignton), W. Harrison (Sheffield), J. Marr (Govan), S. Wild (Dorking), H. S. Burt (Burgess Hill), J. Durant (North Tawton), T. Harris (Carlisle), T. Elliot (Gateshead), C. E. Paton (London), H. W. Seymour (Rotherham), R. Rolls (Clonmel), A. E. Kennedy (Plaistow), G. R. Girdlestone (Wimbledon), H. Easay (Lowestoft), G. H. Cowie (Horsham).

Tuesday, September 27th.—H. Blackiston (Brighton), P. Phillimore (Edinboro'), A. Pinnington (Ludlow), C. Bolkow (Blyth), G. H. Pearson (Nottingham), E. Davies (Henlow), J. Pearce (Teddington), F. Adams (London), M. R. Tremearne (Ipswich), T. Hills (Ashford), H. Lane (Plymouth), H. Williams (Clacton), E. Richards (Pontardulais), V. Corbett (Haltwhistle), T. F. Morgan (Gloucester).

Wednesday, September 28th.—F. T. Elvery (Cork), S. Jackson (Ulverston), W. E. Shrubbrook (Brighton), A. Livermore (Harwich), C. A. Ealand (Burgess Hill), L. Billinton (Brighton), W. Plummer (Maidenhead).