

# Motor Cycling

# & Motoring

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## FROM THE RIDICULOUS TO THE SUBLIME.

SOME EXPERIENCES OF THE EMBRYO MOTIST.

By E. G. RUCKES.

From the time of my first motor experience (recounted in the pages of "Cycling" some time ago, under the heading of "Three Men and a Motor"), until quite recently, the mere mention of the word "motor" caused a chilly feeling to permeate my spinal column. After my arrival home, from this initial trip, I entered into a solemn league and covenant that from henceforth and for evermore I would never be seen on a motor-driven vehicle again, the aforesaid agreement being duly witnessed by our mutual friends "Johnny Walker," Esquire, and Senor Cigarro Flor Fina de Timbuctoo.

Alas! man is oft-times but a frail mortal. Many are the resolutions — good and indifferent, but the good ones chiefly — formed by him in the course of his existence that are not strictly carried out, when the old Adam becomes assertive and laughs to scorn puerile efforts at reformation.

My taste for moting could not have been entirely eliminated from the system, notwithstanding the first disastrous insight into its pleasures, for frequently have I found myself admiring the rakish lines of a speed car, with the same sort of feeling that overcame the little boy who had gorged himself

with green apples, and having undergone the customary pain and suffering, at a later date was found gazing, with sparkling eyes, on a number of rosy ripe ones.

The exhilaration of a trial spin on a 12 h.p. car led to the undoing of all former resolutions; so that when my friend Johnson (who has got a nice little place near the Crystal Palace) invited me to join him and a party of friends, who were going to Brighton and back, on a new car he had imported from France, I accepted the invitation. I knew very well that I should not be called upon to undergo any more hard labour in the towing line in the event of a breakdown, as the car was too heavy to be towed by the occupants.

The party numbered half-a-dozen both sexes being represented. Although the opinions of my friends may not be identical in many cases yet on one point they are always agreed—viz., that the needs of the inner man should never be left unprovided for. There was consequently plenty of the good things of this life on board, including several bottles of "Fizz" (capital "F," please). The thought of that sparkling '76 causes even now a glow of satisfaction).

B



Getting Used to It.

We started off gaily. What a contrast to former experiences of a Brighton trip! We now seemed to fly over the roads, the movements of the mechanism being so sweet and vibration practically *non est*. It is not for me to assert that the rate of progress was beyond the legal limit, and I ought to stoutly maintain that we kept within the letter of the law. Still, like the Scotchman, I "hae ma doots." The familiar landmarks were left behind rapidly one after the other. Hullo! here's Purley Corner. Now we are at the "Old Man's," at Coulsdon, where we used to start our Brighton and back time-tests in the dim and distant past. We are now dropping down the incline at Merstham, where our blue-coated friends in the olden days were wont to lay in wait for the unwary cycling scorchers. That is the place where poor little Johnny Jones was caught, and afterwards hauled before the Reigate Bench and mulcted in sundry valuable coins of the realm.

Is there a hill at Redhill nowadays, or has it been removed? for we are sailing smoothly to the top of the ascent, and the switchback over Earlswood Common lies before us. We seem to swallow the ups and downs of the switchback in one wild rush. If all the ups and downs of life could only be disposed of as easily, we should be a far happier race of beings.

The smoothness of the car's running, and the ease with which it is controlled, is indeed a revelation. Our driver

#### *Knows his Business*

and pays attention to it. You can hardly get a word out of him except "yes" or "no" as the case may be. Good man! we like you all the better for it. Your taciturnity and absorption in your work create a feeling of confidence in the hearts of those who are dependent on your skill for their safety.

We stop at Horley, and for some time are busy investigating the contents of our hamper. Then we are off again, and we are soon rushing through Crawley. The gates of the level-crossing are open, so that there is no need to

stop. We take Pease Pottage Hill in fine style. I remember that when in the trailer behind the motor-tricycle I had to get out and walk up this hill. It is very soothing to compare the comforts of the new régime with the discomforts of the old.

What! The top of Hand Cross Hill! And we are going down at a terrific pace. I murmur a prayer of thankfulness that our driver happens to be a silent, attentive-to-his-work individual. I am inclined to think that I should be considerably nervous at the present time if he chanced to be a "gas-bag" and fond of expatiating on and showing what he could do. Another thought comes to me. Hand Cross is the hill up which we had to tow that three-ton motor-trike when it broke down. What do you say? I have got the weight wrong? Well, at any rate, it seemed to be quite three tons when we were hauling the wretched thing painfully to the top.

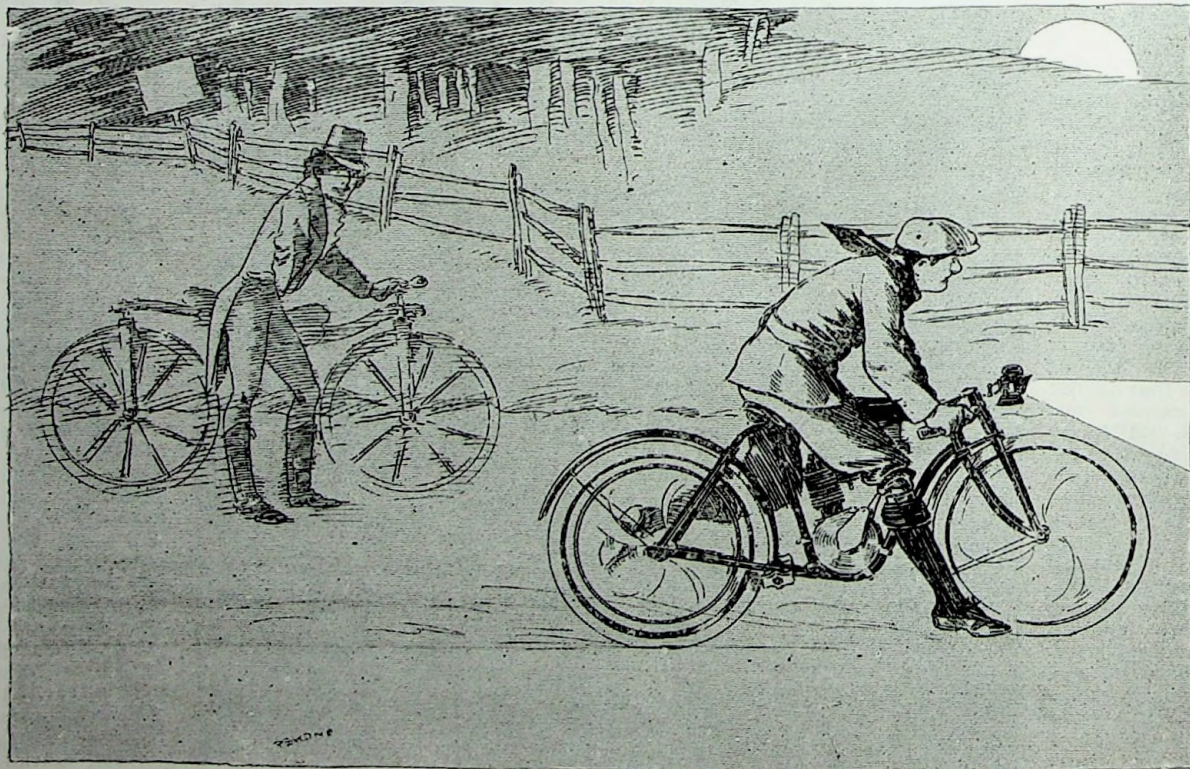
Then the rain came down. Slowly at first, eventually settling into a steady drizzle, causing the appearance of the waterproofs. By the time we had reached Brighton and had pulled up in the courtyard of the hotel, the rain was descending in torrents, and there seemed no hope of the weather improving. It was, therefore, agreed to stay the night at Brighton and return the following day.

It is a wise rule to always make the best of adverse circumstances. A good dinner and a box at the Alhambra consoled us for the loss of our ride home to London.

The next morning

#### *The Weather had Changed,*

the sun was out and the roads drying up rapidly. After breakfast a start for home was made. The roads were in splendid condition, and the car ran through without a hitch. The trip was a most enjoyable experience, one to be remembered for many, many days.



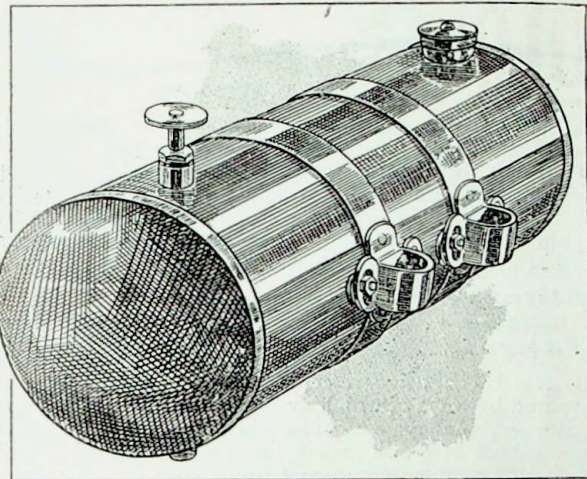
LIKE, YET UNLIKE.

## INVENTION.

*The latest improvements in motors, motorcycles, and accessories.*

### *A Reserve Petrol Tank.*

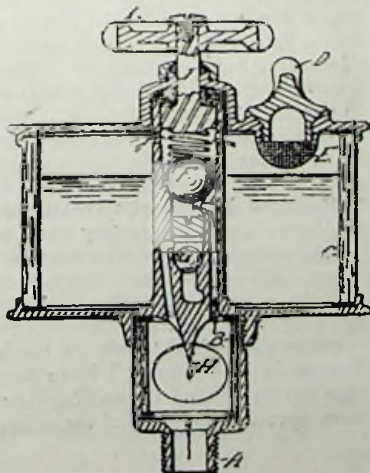
The United Motor Industries Co., Ltd., have a capital thing in reserve petrol tanks suitable for motor-bicycles or trikes. Referring to the illustration it will be observed that it is of cylindrical shape and is made of stout sheet brass, well nickelled. A screw down outlet valve is provided and the capacity about



equals a gallon. The clips for attaching the tank to the frame are adjustable and will clip on to the back forks of a motor-bicycle if they are not cranked in. Further particulars as to price, etc., from the United Motor Industries Co., Ltd.

### *New Style of Automatic Lubricator.*

An improvement on the present system of motor lubrication has just been marketed by the Auto Lubricator Co., Toledo, Ohio. The oiler is perfectly automatic in its action, only supplying oil when the motor is running, hence there is no necessity to turn them on or off. Referring to the illustration, A is the screwed shank of the lubricator which fits into the crank case; B is the glass cylinder which enables the operator to observe the feed. The cup proper is another glass cylinder C, which is held between metal discs in the usual manner. To fill the cup, the plug D must be removed and the oil poured through the strainer E. As soon as the motor is started up, air or gas under pressure escapes into the cup in the direction of the arrows and lifts the ball check-valve F from its seat. When the motor's piston travels towards the head of the cylinder the pressure falls and F is closed down. As soon as the pressure in the cup proper exceeds the pressure in the rest of the system, the small ball G is raised from its seat by the oil, which flows over and soon reaches the drip point H. During the outward stroke of the piston G is shut down and the whole process repeats itself. In a double cylinder motor with cranks at 180° the



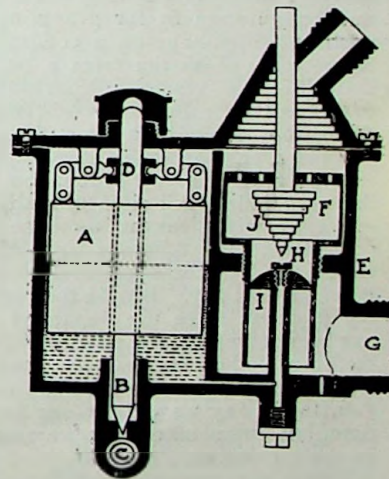
cups must be fitted to the cylinders, there being no vacuum or pressure (higher than atmospheric) in the case at any time.

To regulate the feed, a small hand-wheel I and stem J are provided. By increasing the tension on the coiled spring, which presses on the valve F, the number of drops of oil may be reduced.

The makers state that heavy oils or oil and graphite may be used in connection with their oilers, which will feed it readily, because of the pressure feed. Once the adjustments are made, filling of the reservoir is all that is needed, so that the device does not tax the operator's memory. The container may be connected up with the exhaust pipe of the motor if required.

### *A New Type of Float-feed Carburetter.*

The accompanying illustration shows the details of a new form of spray carburetter patented by an American engineer, of Oxford, Philadelphia. It consists of two compartments, one being the reservoir, inside of which the float (A) and needle valve (B) is fitted and which controls the supply (C) from the petrol tank. The float regulates on the well-known system of toggle joints. Working in a grooved collar (D) inside the spraying or mixing compartment is a threaded flange (E) through which screws a tube or cylinder (F), the upper part acting as a mixing chamber. By screwing this up or down the air supply can be regulated from G. The petrol is sprayed up into the mixing chamber through a central tube ending in a screw-threaded plug (H) with a T opening. The position of this plug relative to the top of the tube determines the size of the opening and, consequently, the quantity of petrol admitted. At the top end of the tube is a dome of wire gauze over which the petrol may flow and be picked up by the current of air coming through. Supported from the upper part of the chamber is the spraying cone, and there is also a series of baffles formed by a corrugated dome, against which the mixture impinges.



### *A New Belt Dressing.*

The United Motor Industries, Ltd., 42, Great Castle Street, Oxford Street, London, have something good in the way of belt dressings, a sample of which they have sent us for trial. It is called the "Castle" belt dressing, and is in the nature of a syrup, and is put up in tins. It is only necessary to use a small quantity and it is applied to the face of the pulley or inside the belt.

### *The Twin Wheel.*

Enquiries concerning the twin-wheel bicycle as fitted with a motor having come to hand, we illustrate the machine, fitted on Lamandière and Labrés' system. The makers of the bicycle are the Twin-Wheel Cycle Co., Limited, 32, North Audley Street, Grosvenor Square, London, W.

Readers having ideas for Inventions can obtain free advice and particulars as to the best way to protect a patent by communicating with this Journal. All letters should be addressed "Patent," care of "MOTOR CYCLING."

## IN TRANSIT.

### Some Experiences of a Cyclist

#### in the Transition Stage. ..

#### **Adjusting the Clothing to the Temperature.**

The motorcycle is not, by any means, so accommodating in the matter of temperature and atmospheric conditions as is the cycle. During the recent hot and sultry spell the coolest occupation that I could discover was motorcycling. Getting to the office on a broiling hot day was a tax upon one's endurance if ordinary means were adopted. The walk to the station, even in the shadow of the trees, would make one hot and uncomfortable, and the ride in the train, with open windows, was fraught with the possibility of chills. In fact, the only means I found of reaching Rosebery Avenue in a mental and bodily state fit for grappling with business, without wasting half-an-hour on a cooling-off process, was by the motorcycle. With the tyres a bit soft, and with a spring seat pillar, the vibration from which one generally suffers over London's suburban roads, was largely nullified, and, apart from the cooling effect of rapid transit through the air, there was the other advantage of a certain saving of time over a somewhat roundabout train journey. And, at the week-ends, such riding as was possible in the daytime was extremely pleasant, and one would reach home in a condition totally different from what one had been accustomed to when the cycle had been propelled forty or fifty miles on a hot day. But, in the evenings, and, again, during the daytime, since the departure of the hot weather, one has been forced to take considerable trouble in adjusting the clothing to the temperature. And that is where a certain amount of thought and trouble are involved—nothing, mark you, to, in any way, deter one from indulging in the pastime, but quite sufficient to warrant a note upon the subject in these columns.

Where the motorcycle differs in this matter from the cycle is in this respect: If one gets at all cold when on the cycle, a hard steady plug will quickly restore the circulation, and even on a cold winter's day, and when clad in a costume suited to the exercise, one can reach home with the body gently aglow. Whilst, if the weather be broiling hot, one can take it steadily where pedalling is necessary and, by free-wheeling on each and every opportunity, a fair rate of progression can be attained without distress, and a cool siesta under the shade of the trees is yet another ally in the battle with the heat. But on the motorcycle matters are different. There is no trouble about keeping cool during the hot weather, the rush through the air being delightful at such times, whilst the act of pedalling does not suffice to quicken the circulation when the feeling of cold is experienced. There is so little labour attached to pedalling and, usually, the gear is so low, that the only effect is to pump one without increasing the body's warmth. No doubt, in course of time, when we find out what we really want in the way of clothing, and can explain our needs to tailors, they will provide us with a suitable means of garbing ourselves. We shall then have a costume which

shall not only ward off heat, but prevent the ingress of cold, and then the one costume will be thoroughly suitable for an all-day run. At present the best thing is to carry on one's machine an extra waistcoat and some protection for the lower limbs, such as a pair of overalls, so that, if it should be necessary, they can be slipped on for the homeward journey in the evening.

#### **Distance Without Fatigue.**

We were out the other day, a friend and myself, and our cyclometers at the end of our journey indicated a nearly complete hundred miles. It had been a most enjoyable trip through a stretch of charming Sussex, the highways and by-ways of which we had explored many and many a time on the cycle. The highways we traversed very little indeed after we struck our touring ground, until we came back to them again that night, and if cycles were few on the highways which ran through that piece of country, they were entirely absent from the byways, for the only cyclist we met anywhere amongst them was a local, who dismounted on our approach and regarded our motorcycles with amazement. For the first time within our experience we had been able, thanks to the motorcycles, to take a run down there, looking up all the favourite spots and chatting with the many acquaintances we have formed in that part of the world, and get back home all in the same day. Hitherto it has, at least, occupied a week-end with cameras at work, but, with the motors to occupy our attentions, we had discarded all thoughts of photography. This was a mistake in one way, because it made too great a severance between the old and the new way of seeing our favourite locality. On our arrival home we could not help remarking upon the different effects upon us physically of a long motorcycle ride and a similar journey by the bicycle. After doing a hundred miles in the day on a cycle the symptoms of fatigue are very noticeable, and, if the ride be made of much greater length, the results will be felt for some days. But a hundred miles on a motorcycle leaves no distressing symptoms behind whatever. The only thing that in anyway troubles one after a long ride is a certain amount of aching in the ischia bones, due, as I ascribe it, to the fact that my saddle is not suited to the work to which I am putting it. And, by the way, this is a matter on which I should be very glad to gain some information. On the bicycle I am very well suited by a much treasured B 10 saddle, but usually the bicycle saddle is very little used for sitting down purposes, although the introduction of the free-wheel has led many riders to alter their saddles to something more suited to occasional free-wheeling. Motorists, however, are free-wheeling the whole of the time, and consequently require that which shall be more of a seat than a saddle. Except in this matter, I have found that a long motorcycle ride leaves behind it considerably fewer pains and penalties than does a cycle ride of the same length.

CYCLOMOT.



Conducted by

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## OPINION.

### *A Fitting Tribute.*

The banquet which was given by the Automobile Club to Mr. S. F. Edge and Mr. M. S. Napier on Wednesday last was a fitting tribute to pluck and genius. Mr. Napier had designed and built a car, British made throughout, which had proved itself superior in open competition to the finest cars of foreign manufacture, and Mr. F. S. Edge had driven that car to victory in the Gordon-Bennett Cup Race. Nothing was wanting to make the event thoroughly successful in every way. The guests of the evening were surrounded by a most representative gathering of motorists, and the presence of M. Girardot, the ex-holder of the trophy, was evidence at once of that gentleman's chivalrous nature and of the sportsmanlike feeling existing between the Automobile Club of Great Britain and Ireland and the Automobile Club of France. We do not remember having witnessed at any similar function a happier incident than the one when M. Girardot, after a few well spoken words of hearty congratulation to his victor, formally handed the trophy to Mr. Edge and shook hands with that gentleman and Mr. Napier. It was one of those pleasing little touches which go to make up the sum of human happiness—pleasant alike, we feel sure, to the vanquished as well as the victor. To one of an observant nature, the bearing of M. Girardot was an interesting study. Never for one moment assertive, he was alert and responsive to everything that was said laudatory of Mr. Edge's performance, and courteously appreciative of every reference to his own name. M. Girardot responded in French, and we do not know whether he was able to follow all that was said concerning him; but we will assert that nothing that was said of him was in the least exaggerated. His manner was at once generous and sportsmanlike, and we venture to say that if M. Girardot were to win next year's Gordon-Bennett Race over British roads he would have no fault to find with the reception he would receive at the hands of British motorists. Mr. Edge was particularly happy and instructive in his response to the toast of his health, and his speech, which was the longest delivered during the evening, bristled with rare good points and interesting recountal of the incidents of his great ride. Great stress was laid both by the chairman, Mr. Roger Wallace, K.C., and by Mr. Edge, upon the importance of holding the Gordon-Bennett race in Great Britain next year in accordance with the terms of the contest.

It was said that Parliament might easily sanction the race for two days over a picked course, and the chairman appealed to the Press to help the Automobile Club in forwarding this matter; but, so far as his appeal to the general Press is concerned, we fear it was futile. That Government might sanction the holding of this race in the interests of the motor industry is perfectly true; that they will be doubtful. Influence a great deal more powerful even than that possessed by the Automobile Club will be needed before such an event will be permitted on our roads, we fear. That such a contest could be carried out in this country without very great inconvenience there is no doubt in our minds; whether it will ever be sanctioned is a moot point.

### BEXHILL.

*A Perpetual Injunction prevents the holding of the Bank Holiday motor races. They will take place at Welbeck on August 7th.*

There will be no motor races at Bexhill-on-Sea on Bank Holiday. The whir-whir of the motor will not be heard along the Marina, and the fascination of watching the flying automobiles will be denied to the expectant visitors at the pretty watering place. Everything was arranged for the carrying out of a full and interesting programme, but on Thursday last, in the Chancery Division of the High Court, a decision of Mr. Justice Farwell's put a stop to the scheme. The case argued on that day was that of Mayner v. Earl de la Warr, and an injunction was asked for by the plaintiff to restrain Earl de la Warr from permitting motor races being held at Bexhill, on the ground that they interfered with the plaintiff's enjoyment of his property, which, it seems, adjoins that of the defendant. Reference was made by plaintiff's counsel to the motor races held on Whit-Monday last, and to the large crowds present on that occasion. The racing lasted from noon till nearly six o'clock, and it was alleged that during that period it was dangerous to ride or drive along the Marina, for the noise of the cars was calculated to scare the horses. Mr. Mayner also complained of the barriers which were put up along portions of the route, and these, he contended, interrupted his tenants and his own access to his premises. After listening to arguments on both sides, the judge came to the conclusion that the plaintiff had proved that his rights had been interfered with, and granted a perpetual injunction.

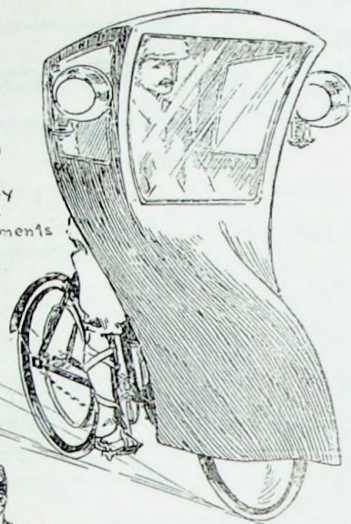
This decision put the Automobile Club into something of a quandary, and a special meeting was hastily convened and held on Friday evening, when it was decided that the club could do nothing in the matter but withdraw the event, so far as Bexhill was concerned; but, as the Duke of Portland had been kind enough to place his private track at the disposal of the club, arrangements would be made forthwith for the programme to be carried out at Welbeck, and the date fixed for the meeting is August 7th. We understand that excellent entries have been received for the various races to be contested, and that over 100 cars and other vehicles are expected to compete, these including all the best known drivers. The postponement of such an important meeting is to be greatly regretted, but it will be readily admitted by all to be quite unavoidable under the circumstances.

*The Editor of "MOTOR CYCLING" is at all times pleased to give his best consideration to the contributions of readers, either literary or artistic. The experiences of practical riders of motorcycles are always welcomed, and their publication assured if they are of such a character as to be helpful to others. In submitting MS., drawings, or snap-shots, it should be stated whether remuneration is expected.*

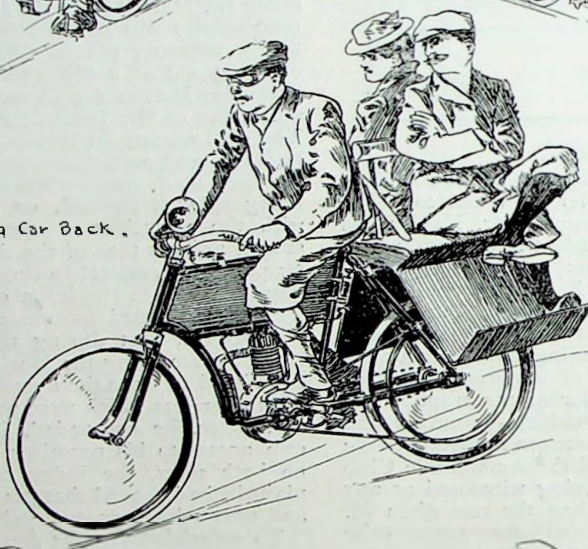
The weather hood  
(folds back over  
the rear wheel)



The Cabicycle!  
A Private Hansom!!  
No more unsightly  
Goggles & death  
blow to weird garments



The Jaunting Car Back.



The Wind-  
Screen



The Tonneau Back Bike  
Invaluable for  
families

The Cycle Lorry  
Designed for small  
parties, moving jobs,  
or luggage transport



#### MOTOR FANTASIES.

By our ever sanguine but wholly irresponsible inventor.

## COMPLIMENTARY BANQUET TO MR. S. F. EDGE AND MR. M. S. NAPIER.

*M. Girardot presents Mr. Edge with the Gordon-Bennett Trophy amid great enthusiasm. Interesting speeches.*

The highest pitch of enthusiasm was reached at this interesting function at the Hotel Métropole on Wednesday last, when M. Girardot, the previous holder of the Gordon-Bennett Trophy, formally relinquished its possession, congratulated Messrs. Edge and Napier upon winning it, handed the artistic cup to Mr. S. F. Edge, and shook hands with that gentleman and the designer of the victorious Napier car, Mr. Montague S. Napier. M. Girardot was

### *Sportsmanlike in bearing,*

sportsmanlike in speech, and most obviously sincere in his congratulations to the winners, and the interesting incident above referred to was no doubt the pivot of the gathering, for it evoked a storm of tumultuous applause, long continued after M. Girardot had sat down.

The banquet was in every way a memorable one. The elite of automobilism had foregathered to do honour to the plucky driver of the Napier car and its clever designer, and nothing was wanting to make the proceedings adequate to the great occasion. Mr. Roger Wallace, K.C., occupied the chair; Mr. S. F. Edge sitting on his right, and Mr. M. S. Napier on his

left. After dinner the chairman proposed the Royal toasts, remarking upon

### *The King's Interest in Automobilism,*

and stating that one of the vice-chairmen, meaning, we believe, the Hon. J. Scott Montague, M.P., was shortly to have the honour of driving her Majesty the Queen in the King's new motorcar. Before proposing the toast of the evening, the chairman read several letters and telegrams from friends unable to be present. There was a congratulatory telegram from M. Charron, a previous winner, another from the chairman of the Automobile Club of Switzerland, which congratulated Mr. Edge on bringing the cup to their English friends, the sportsmen of the world. There was also a letter of regret from the Premier, Mr. Balfour also extending his congratulations on the success of a car of British manufacture. Then the chairman proceeded to propose the toast of

### *The Guests of the Evening.*

He said it was always interesting to know where a champion came from, and thought the audience would be surprised to know that Mr. S. F. Edge was born in Australia. He thought it right that Messrs. Edge and Napier should be honoured



THE BANQUET TO MESSRS. EDGE AND NAPIER.

[Fradelle & Young.

Photo by] Mr. Edge is standing up on the right of Mr. Roger Wallace, K.C., Chairman, M. Girardot is standing on the right of Mr. Edge, and Mr. Napier is standing on the Chairman's left.

for bringing the Gordon-Bennett cup to England, and dwelt upon the many difficulties of racing in a foreign country. He particularly emphasised the

### *Great importance of running the race in England,*

and expressed the sincere hope that Parliament would sanction a race extending over a couple of days over a suitable course on British roads. Mr. Mark Mayhew having seconded the toast in a very interesting speech, the audience rose and most enthusiastically honoured it.

At this point occurred the incident of the presentation of the cup by the ex-holder, after which Mr. S. F. Edge rose to reply.

He was received with loud and continuous cheering. He said he regarded the matter not as a personal one, but one affecting the motor industry, and dealt at some length with the way in which English makers were handicapped, but thought that great benefit would accrue to the trade from bringing the cup to England. Mr. Edge then gave a most interesting survey of the great race, interspersing

### *Many Characteristically Humorous Touches,*

notably in dealing with an amusing mistake made by some attendants at one of the controls, who were assiduous in their attentions to Mr. Edge and his car, plying him with champagne and choice eatables, filling his petrol tanks, and performing other charitable deeds. Mr. Edge surmised that there was some mistake, but as he didn't understand what these excited good Samaritans were talking about, felt fully justified in accepting their good offices. He brought a most interesting speech to a close by expressing the hope that arrangements would be made for holding the race in England next year, pointed out the vast impetus such an event would give to the industry, and amid great applause said he would strive his best to retain possession of the trophy. Mr. M. S. Napier being called upon to respond to the toast did so in a few modest words of thanks for the reception accorded him. The Hon. J. Scott Montague, M.P., proposed "The Automobile Club of France, and other recognised Automobile Clubs" in a felicitous speech, coupling with the toast the name of M. Girardot, who briefly responded in French.

The toast of "The Chairman" closed the proceedings.

## **THE PARIS-VIENNA RACE.**

*Full and Final Official List of the Placings in All the Classes, with Authentic Times.*

After a rather long delay, caused by the enormous work in connection with such an organization, the official list of placings in the big motor race has been issued by the Automobile Club de France.

Hereunder is the complete lists of the different classes:—

### **CLASS I. HEAVY CARS.**

Place.	Name.	Make.	Total Nett Time.
			H. M. S. F.
1	H. Farman ...	Panhard et Levassor...	16 0 30 1
2	Zborowski ...	Mercedes ...	16 13 29 3
3	M. Farman ...	Panhard et Levassor...	16 19 29 2
4	Teste ...	Panhard et Levassor...	17 13 28 4
5	Pinson ...	Panhard et Levassor...	18 — 41 2
6	P. de Crawhez ...	Panhard et Levassor...	18 5 20 2
7	Chauchard ...	Panhard et Levassor...	18 16 45 2
8	Edge ...	Napier ...	19 16 21 4
9	De Caters ...	Mors ...	19 54 58 1
10	G. de Crawhez ...	Panhard et Levassor...	20 6 36 2
11	Jarrott ...	Panhard et Levassor...	20 44 12 —
12	Leys ...	Panhard et Levassor...	20 51 52 3
13	Augières ...	Mors ...	21 17 50 4
14	Sabis Bey ...	Panhard et Levassor...	22 9 52 1
15	Chanliaud ...	Gardner Serpollet ...	22 27 38 1
16	Gavaris ...	Panhard et Levassor...	24 19 31 1
17	Le Blon ...	Gardner-Serpollet ...	24 20 20 —
18	Merville ...	de Dietrich ...	24 20 53 3
19	Rouquette ...	Peugeot ...	24 54 43 2
20	Rutishauser ...	Gardner-Serpollet ...	27 44 51 3
21	Olliver ...	Gardner-Serpollet ...	28 47 48 —
22	Cornilleau ...	Decauville ...	35 1 32 3
23	Cottard ...	Gardner-Serpollet ...	47 52 31 2

### **CLASS II. LIGHT CARS.**

1	M. Renault ...	Renault Frères ...	15 47 43 4
2	Edmond ...	Darracq ...	16 10 16 1
3	Baras AL ...	Darracq ...	17 4 52 —
4	Hémery ...	Darracq ...	17 23 38 3
5	Marcellin ...	Darracq ...	17 38 36 1
6	Tart ...	Clément ...	18 26 45 3
7	Berteaux ...	Panhard et Levassor...	18 28 — 3
8	Collin ...	Darracq ...	19 14 47 3
9	Barbaroux ...	Clément ...	19 51 1 —
10	Dechamps ...	Dechamps ...	20 16 25 3
11	Dernier ...	Gobron-Nagant ...	20 45 57 1
12	Wegel ...	Clément ...	21 28 37 1
13	L. Renault ...	Renault Frères ...	21 50 19 2
14	Rigolly AL ...	Gobron-Brillie ...	22 8 38 4
15	Uhlmann ...	Decauville ...	22 20 39 1
16	A. Fournier ...	Gobron-Brillie ...	22 55 48 2
17	Mestayer ...	Decauville ...	23 8 39 4

18	Léger... ..	G. Richard ...	23 9 45 —
19	Pirmez ...	Delahaye ...	23 42 17 —
20	Conrad ...	Gobron-Nagant ...	23 57 18 1
21	St. Ribes ...	Panhard et Levassor ...	24 7 22 1
22	Kœchlin ...	Gobron-Brillie ...	24 53 54 —
23	Stead ...	G. Richard ...	25 32 56 4
24	Perrin ...	Delahaye ...	25 35 29 4
25	L. Barrow ...	De Dietrich ...	26 12 23 0
26	Cozic ...	Dechamps ...	26 17 36 3
27	Kirchheim ...	Fahrzenfabrik ...	27 13 55 4
28	Comiot ...	Clément ...	27 15 42 2
29	Berruë ...	Gobron-Brillie ...	27 30 17 3
30	P. Rivierre ...	Dechamps ...	28 16 35 3
31	Guders ...	... ..	28 46 43 2
32	de la Touloubre ...	Decauville ...	30 28 36 1
33	Marot ...	Decauville ...	31 27 7 2
34	Page ...	Decauville ...	35 26 12 4
35	Volatum ...	Clément ...	36 58 45 1
36	Théry... ..	Decauville ...	41 12 22 2
37	Gaste ...	Société Automotrice ...	45 17 4 —
38	Salleron ...	G. Richard ...	45 41 8 3
39	Legrand ...	Crouan ...	46 3 55 3
40	Simon... ..	Société Ader ...	46 21 35 1
41	Dupont ...	Liberia... ..	47 10 42 2
42	Tenearts ...	Dechamps ...	68 31 53 —

### **CLASS III. "VOITURETTES."**

1	Guillaume ...	Darracq ...	20 4 33 —
2	Grus ...	Renault Frères ...	20 17 54 2
3	Cormier ...	Renault Frères ...	23 22 37 2
4	Durand ...	Corre ...	25 47 13 2
5	G. Rivierre ...	G. Richard ...	26 7 33 1
6	Lamy ...	Renault Frères ...	30 11 48 4
7	G. Richard ...	G. Richard ...	30 55 6 4
8	Buchillet ...	Corre ...	32 16 30 1
9	Passy ...	Passy ...	44 55 16 4

### **CLASS IV. MOTOR-TRICYCLES.**

			H. M. S.
1	Osmont ...	De Dion-Bouton ...	25 1 18
2	Holley ...	De Dion-Bouton ...	35 29 17

### **CLASS V. MOTOR-BICYCLES.**

1	Bucquet ...	Werner... ..	26 37 2
2	Labitte ...	Werner... ..	28 26 36
3	Rieger ...	Laurin ...	30 48 12
4	Pseudnick ...	Laurin ...	34 28 45

Different protests having yet to be examined for the last two classes, the above list may yet undergo some changes as regards the motorcycles.

## NEWS.

There will be no motor races at Bexhill on Bank Holiday.

Mr. F. Guy Lewin is in charge of a new depot acquired by Friswell, Ltd., at 48 and 49, Long Acre, W.C.

Great pressure of business will prevent Mr. S. F. Edge going over to compete in the Circuit des Ardennes.

Several German motor factories are reporting rather heavy losses this year, probably due to needed experiments.

Friswell, Ltd., have just declared a dividend of 10 per cent. on their ordinary shares and 6 per cent. on their preference shares.

The banquet given to Mr. S. F. Edge and Mr. M. S. Napier by the Automobile Club at the Hotel Metropole was a great success.

The 2 h.p. Rex motor-bicycle now holds the two and five miles grass records, made at Harrow on July 19. The times are 3 min. 55 secs. and 9 min. 59 secs. respectively.

The Chambre Syndicate de l'Automobile (Paris) has passed a resolution inviting its members not to take part in the proposed Paris-Bordeaux race, even if it is sanctioned.

The Swiss Government has set aside, in the budget for the Federal Army, the sum of £800 with which to purchase a motorcar, to be used for the purpose of instructing the officers in the art of managing the horseless vehicle.

The Truscott Boat Manufacturing Co., of 38, Fenchurch Street, London, send us on their catalogue of marine motors, and say they will be pleased to give any information to "MOTOR CYCLING" readers who are interested in petrol motors for launch work.

The possibility of a steam-driven motor-bicycle is being actively discussed. Steam has undoubtedly many advantages, amongst which its great flexibility is not the least. How long will it be before we see one in a practical form? At the next motor show?

Two boys, respectively fourteen and fifteen years of age, are making a trip from New York to Albany in a 4 h.p. car weighing 700 lbs. Both boys have already had some workshop experience, and are really expert drivers. They expect to average 100 miles a day.

The motor-bicycle is one of the best technical educators imaginable. It is really remarkable how even the most conservative mind becomes converted when one becomes a motor-bicyclist. It is impossible not to learn a great deal about the science of mechanics and electricity.

<sup>1</sup> While the N.C.U. is desirous of handing over its control of motor cycling to the Automobile Club, the Union Velocipedique de France is asserting its authority in the matter, and several of the best known motorcycleists are likely to be fined or suspended for competing without the French Union's licence.

The Automobile Club will hold a motor meeting at the Palace at the end of August.

### A Fortuitous Circumstance.

Referring to the Continental race known as the "Circuit des Ardennes," the "Daily Mail" says:—"A great number of high-powered Continental vehicles are entered. As the competing cars travelling at the highest speeds pass the spectator six times in the course of the event, it affords an opportunity of witnessing a great race under unusually fortuitous circumstances!"

When a motorcar race  
Is about to take place,  
One imagines the date and the route  
(not the pace),  
And the number of laps  
Are all settled, perhaps,  
By committees of int'rested sportsmanlike  
chaps.  
But I'm free to confess,  
That I never could guess  
Why it was that they've always gone off  
with success;  
Till the dear "Waily Dale"  
Came along with a tale  
To explain why they never, no, never  
could fail.  
For it seems that in France  
Things are left to pure chance,  
And it's merely a "fortuitous circumstance!!"

### A Conversion.

Mr. F. D. Davis writes:—"I enclose a photo (taken by an amateur) of my motor-bicycle, thinking it may interest you, as it was through your paper I went in for same. I was in the 'undecided' stage, quite ignorant on motor-bicycle matters; with all my friends advising me to 'wait till next year,' etc., etc., when, to my delight, your paper came out. After the first four copies I decided to have the bicycle, and can only say how glad I am I did not 'wait till next year.' I have Eadie fittings and Minerva engine, and have been most lucky in the matter of breakdowns. I am convinced that 1½ h.p. engines are amply strong enough for anyone (except for racing) and cannot understand so many people wanting stronger-powered machines. My machine will carry me up any but exceptionally stiff hills, and I have reached 30 an hour on the level, which should satisfy any one. Congratulating you on your paper."

Motorists are increasing steadily in Paris, the number of licences issued being already over 10,000.

The Automobile Club "Notes and Notices" will in future be styled "The Automobile Club Journal."

Motors and trailers are just now gaining in popularity with Reading folks, and during the recent hot weather the carriage exercise of an up-to-date class was looked upon with envious eyes.

It was asserted the other day before a judicial bench that a driver of a twenty horse-power motorcar could pull up in half a yard. The point doubtless caught the breath of the wigged few, for the case was dismissed.

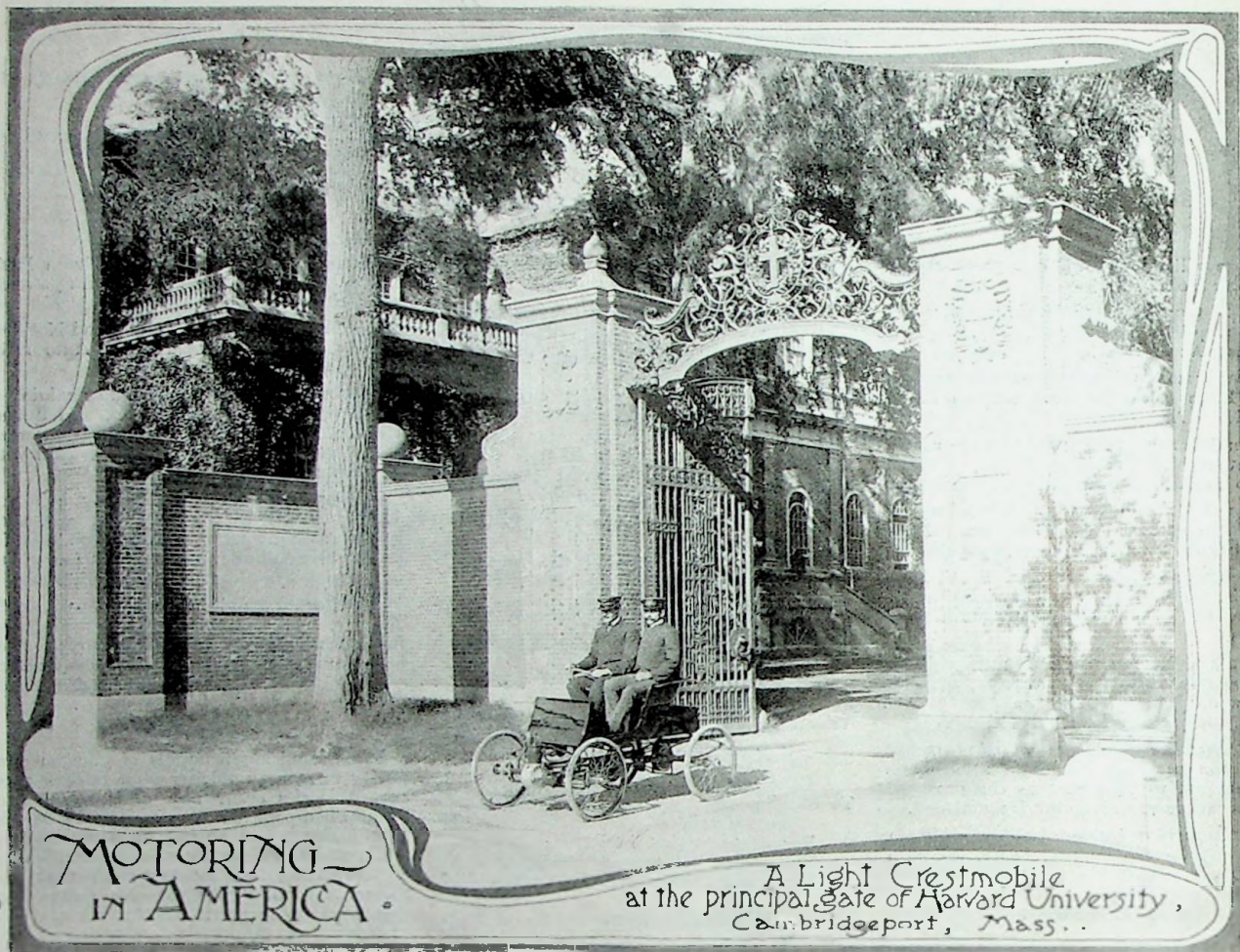
A letter to hand from the Straits Cycle Agency, 15, Battery Road, Singapore, intimates that they are anxious to get catalogues from makers of motor-bicycles, with a view to introducing the motor-bicycle in this colony.

### So Simple!

Some amusing instances of childish simplicity in railway officials when dealing with motor-bicycles occur now and again. One of ours had occasion to bring a motor-bicycle from a South London station to the City by train, and experienced considerable difficulty in convincing the booking clerk that the motor was not "charged with electricity," which was contrary to regulations.



Mr. F. D. Davis, converted to motor cycling by reading "Motor Cycling."



### **Moting to Harrogate.**

Several members of the Midland party for the Harrogate Camp have decided that, given fine weather, they will motor up from Birmingham on Friday. The distance is 131 miles, and as it is over splendid roads and through some of the prettiest scenery in the country the ride should be very enjoyable. If any of our readers who are bound for the camp care to join the party they should drop a line to our Birmingham office and ascertain all particulars as regards time of starting, etc.

### **The Adjustment of De Dion Pattern Contact Breakers.**

The De Dion pattern contact breaker still finds many adherents, and it is just as well to know how to adjust it so as to get the best results. It is mainly a question of adjusting the spring, so that it really "trembles," instead of simply dropping dead on the contact. This means that the platinum tipped screw must be carefully screwed down until the spring buzzes when lifted up slightly and then released. If it does this, quite a stream of sparks will be produced at the plug instead of a single one at the actual breaking of the contact. It is quite a mistake to adjust the spring so that it depends on the lifting up of the block to actually produce a "break" contact, this results in late firing, and is often the reason for back-firing in the exhaust.

### **A Fast Mile.**

Alexander Winton, an American motor racer, beat the record made by Fournier of 51½ secs. for a mile by ½ secs. The trial, however, not having been sanctioned by the American Automobile Association, is not ranked as official. The new racing car is driven by a four-cylinder motor and weighs 2,000 lbs. The horse power is not stated.

### **The "Ivel" Agricultural Motor.**

Those of the old cycle road racing brigade who cherish kindly remembrances of Dan Albone—"Dan, of Biggleswade," as he used to be called—will join us in congratulating him upon the latest invention turned out from the "Ivel" works. For some years

Dan has been known in the motoring world, and he has already turned out some very satisfactory cars, but, just as he was the first to foresee the future of the ladies' safety bicycle, which he was the first to introduce in a practicable form, so he has been the first Englishman to see that the petrol engine is capable of other uses than the propulsion of cars and motor-cycles. Last week we had the pleasure of seeing his latest invention, which is an agricultural instrument, appealing to the farmer in the first place, but also to all those who take an interest in progress. A thorough trial of the machine had been arranged, and this was conducted in the presence of Lord Alwyne Compton, M. P., and a considerable number of interested agriculturists. The motor is of 8 h.p., and is really a monster tricycle fitted with a tandem cylinder horizontal engine. The motor was duly coupled to an ordinary mowing machine, and the task set was to mow a large crop of hay, growing on rather rough ground and having a fairly dense undergrowth. This the machine accomplished in a most satisfactory manner, taking the mower along at a pace which was voted too fast by the majority of the farmers present, who have yet much to learn as to the capabilities of modern machinery. The machine certainly did the work in about a quarter the time that a pair of horses would have taken, and did it better.

### **Special Notice.**

Owing to the Bank Holiday, "Motor Cycling" will be published one day later than usual next week—on Wednesday instead of Tuesday. "Cycling" will also be published a day late—on Thursday instead of Wednesday.

### From the Military Aspect.

Alcohol is preferred to petrol by the Continental military authorities for military motorcycles and cars, because in case of war the petrol supply could be cut off, most of it coming from America and by steamers from Russia, whereas alcohol is a home product of the beet and the potato, always at hand.

### The Battle of Motors.

A motor-bicycle match was run off between the Minerva and Kelecom factories on July 21st, at the Velodrome de la Cambre, Brussels. Each factory was represented by four riders, and the winning team proved to be the Minerva by 12 points. The dimensions of the bore and stroke of the motors used were: Minerva, 75 x 75 mm.; Kelecom, 82 x 86 mm.

### Circuit des Ardennes.

The Belgian Automobile Club is arranging a motor tour through the Ardennes, covering altogether a distance of 504 kilometres, or about 300 miles. The tour, which can be described as a mountain race, starts to-day (Wednesday), and all kinds of motor vehicles are taking part. Count Zborowski and Baron Forest, two of the Paris-Vienna arrivals, will take part, and we hear the cycle section has filled well.

### Canning Town Motor Races.—

#### A Correction.

In our report of the Canning Town Motor Races in last issue we seem to have unwittingly done the Phoenix motor-bicycle—so capably ridden by Mr. Van Hooydonk—an injustice. In writing our report, we had in mind the fact that the machine ridden was fitted with the new type Minerva engine. The actual machine is the same standard touring mount which Mr. Van Hooydonk rode in the Dashwood Hill trials and recent hill-climbing contests, and was not altered in any respect, and was fully loaded up with two gallons of petrol, two brakes, mudguards, luggage-carrier, etc. These facts of course imply all the more credit to the success of the Phoenix, and we hasten to put these facts before our readers.

### A Good Ride.

Baron Henri de Rothschild performed an excellent ride on a German made car recently, accomplishing the distance from Paris to Pforzheim in one day. This is about 480 miles, and it will be generally admitted that this is a very tall order for a day's run.

### The New De Dion Racing Motor-Bicycle.

The machine illustrated on this page is an 8 h.p. De Dion motor-bicycle, to be used for record breaking and pacemaking purposes. Ungainly and heavy though this machine appears, there seems to be no question about its speed capabilities, which are confidently expected to be something in the nature of a sensation during the trials which are to take place shortly. It will be observed that the machine follows to some extent the lines of the pacing motors used in the recent races in Paris. The huge, air-cooled motor is set in the centre of the frame, and connects the two main tubes by brackets rigidly bolted to the crank case. The carburetter can be observed just alongside the diagonal tube, with its supply pipe from the petrol tank, and the warmair intake comes close up to the radiators. The electric ignition is of the standard De Dion type, the batteries being carried in a case slung from the top tube, and the coil is fixed in front of the steering socket. The rider sits right behind the centre of the back wheel, on an extension from the back fork end and the diagonal lug. On this extension tube the speed-regulating levers are mounted. The cylindrical petrol tank is seen clamped to the top tube. A striking feature of this machine is the huge back tyre, made immensely strong to take the driving strain and lessen vibration. The steerer is much lighter and smaller in section; both tyres are Dunlops. The drive is by means of a 2-ply flat leather belt, and the pulley ratios are about 2½ to 1. No pedals are fitted, but rests for the rider's feet are provided. This machine is expected to do anything between a 50 to 60 miles an hour speed.

### Land's End to John O'Groats Ride.

Mr. Arnott writes to tell us that he omitted to record a stop of 45 minutes at Granton during his ride while he took refreshments. It was from 6.30 to 7.15 on the Monday evening. This reduces his net riding time to 47 hours 10 mins., instead of 55 mins.

### Accumulator Troubles.

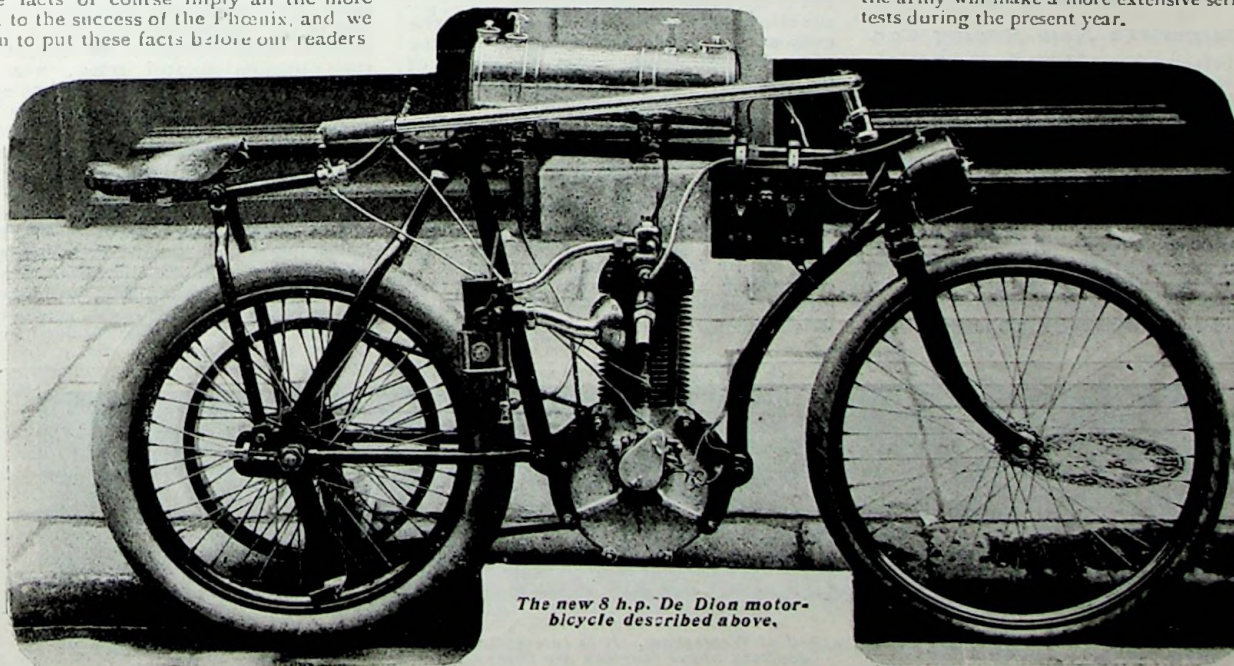
In reply to correspondents who have had trouble with accumulators short circuiting, we have a note to hand from E. Barnfather, accumulator maker, 95, Griffin Road, Plumstead, saying that he makes a speciality of accumulator repairs, and fits special non-short circuiting insulators to them. All batteries for repair must be sent empty and packed in wood box.

### To Prevent the Belt Hook pulling through the Leather.

A great deal less trouble would be experienced with belt hooks pulling through if the hole in the leather was made with more care. Some riders use a penknife, pair of scissors—in fact, anything that will bore a hole. This is a mistake: a proper belt punch—which is a very inexpensive and small tool—should be used. This cuts a clean small round hole, and if made well away from the end of the belt it will not weaken the leather. A knife or scissors are very liable to tear the leather.

### Motorcars in the Russian Army.

During the manoeuvres of the Russian Army in 1901, a 6½ h.p. machine was used in the operations which took place in the neighbourhood of Siedletz in the Warsaw district. The ground was in a very bad condition. According to the report which was made on this vehicle, it was only able to circulate over a single route. It was used for transmitting orders from the rear of the column to advance guard, or for the transport of the chief of the detachment in order to reconnoitre his own positions or those of the enemy. The average speed over the road was 12 or 13 miles an hour. During the ten days of the manoeuvres the automobile covered a total distance of 640 miles, running day and night. According to the report, the army will make a more extensive series of tests during the present year.



The new 8 h.p. De Dion motor-bicycle described above.

### On the Brighton Road.

The General Motorcar Co., Ltd., have opened a depot at London Road, Norbury, S.W. They have a garage for 24 cars, with works enabling them to undertake any repairs. They are also stocking all sorts of accessories, and intend supplying Pratt's spirit in small cans for the benefit of motor cyclists.

### Trade Opening Up.

It is pleasant to learn from many sources in the trade that the fine weather has brought out the motor cyclist, and that the purchase of cycles and appurtenances is brisk. The wet weather of May and June, and the uncertainty that followed, caused a good many intending motorists to hold their hands, but now they are to be seen tap manipulating and revelling in the delights of the new pastime.

### Dunlop's Silencer.

In the hill-climbing contest promoted by the Irish Motor Union the performance of Mr. J. B. Dunlop, junr., on the F.N. bicycle was somewhat remarkable, for it was the lowest powered motorcycle that took part. It finished second, only seven seconds slower than the winner. It went up practically noiselessly, due to the new silencer fitted by Mr. Dunlop, which this hill-climbing contest would seem to prove does not affect the power of the engine.

### Benzol an Excellent Substitute for Petrol.

According to an authority on the properties of petroleum spirits there would seem to be no reason why "Benzol" should not answer better than petrol as the fuel for internal combustion engines. At present there is a considerable amount of discussion going on as to the advantages of using alcohol as a fuel. Benzol would not only be greatly superior to alcohol in results but it could be obtained far cheaper. In this country Benzol would be a native product which is not the case with petrol.

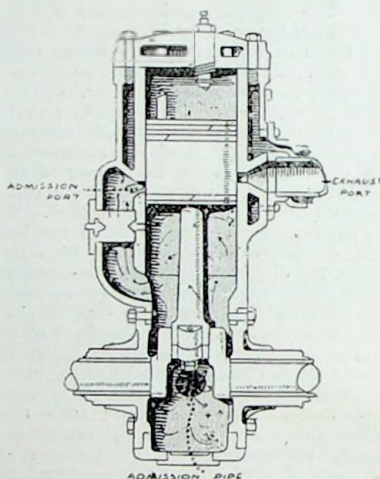
### M. Serpollet's New Racing Car.

M. Serpollet has sold his famous "Easter Egg" racer, with which he made the record at Nice, for £2,750, and is already at work designing a new racer for 1903. He wishes to prove by this type that he was right in devoting so much energy towards the problem of steam as applied to the automobile, and expects to establish it by a striking demonstration. His new racing machines are to weigh less than 2,200 pounds, and will make 70 miles an hour as an ordinary thing. The voyage from Paris to Bordeaux could thus be made in five hours, and the machine would only need to stop for provisions every 300 miles or so.

### An Explosion every Revolution.

#### How A TWO-CYCLE MOTOR WORKS.

A type of motor that is coming to the front is that known as the two-cycle, or valveless motor. The action of the four-cycle motor which forms the standard pattern at present is pretty generally understood. In this form we only get one explosion for two complete revolutions of the crank, and in the two-cycle motor there is an explosion every revolution. Referring to the diagram, it will be noticed that there are ports constructed so that they can be opened and closed by the piston. When the piston makes an upward stroke, the explosive mixture is drawn into the crank chamber, owing to the partial vacuum produced. When the piston moves down again, the gas inlet is closed, and the charge passes into the combustion chamber through a by-pass port and is compressed



and fired on the upward stroke. The explosion takes place, and drives down the piston and leaves the combustion chamber full of the spent charge. Now on the opposite side to the admission port is arranged the exhaust port, which is uncovered by the piston just previously to its uncovering of the admission port, so that the burnt gases escape. As the piston gets to the end of its stroke, the admission port is opened and a new charge of gas enters; and as the exhaust is still open this charge would tend to escape, but a deflection plate fixed to the piston head prevents this. The cycle of operations is now repeated, the piston on the up stroke both taking in the charge and compressing it. The good feature about this type of motor is its comparative simplicity and the fact that greater power can be obtained weight for weight compared with the four-cycle type.

### High-speed Motor-bicycles in the United States.

The majority of the motor-bicycles used for pacing in the States are fitted with 8 or 9 h.p. De Dion engines. One of the fastest machines in America is a tandem used by Walthour, the Southern rider, and this is the same machine that was used by Chas. H. Metz in the Long Island motor-cycle contests when he rode a mile in 1 min. 10 secs.—a world's record. It will not be long before the mile is accomplished in 60 secs. if powers go up as they have done. Another interesting fact is that the gears are extraordinarily high, 2 $\frac{1}{2}$  and 3 to 1 being usual on racing motors.

### Attention, Please!

If the motor bicycle trade is going to be a success from the manufacturer's point of view, makers must remember that customers require more attention than purchasers of ordinary bicycles. When a man has spent a considerable amount of money on a motor-bicycle, he has a right to expect businesslike treatment and courteous attention; to letters and enquiries for spare parts. A case which has recently come under our notice shows that some manufacturers are unfortunately wanting in ordinary business courtesy, let alone that tact which, "you may take it for a fact," is a strong incentive to customers to come again. A very old cyclist ordered a motor-bicycle at the last Stanley show and got delivery at Easter. He had the usual little bits of trouble which motor-cyclists expect, but two particular items in connection with his mount were not as they should have been. Firstly, the valve leading from the petrol tank to the carburettor leaked, and the latter was in a perpetual state of flood, rendering the motor difficult to start. The purchaser mentioned this to the maker, who promised to make a clip to secure the valve in its position; this, however, has never been received by the motor-bicyclist. In the second case, great difficulty was experienced in making the machine go slowly; various adjustments of the sparking lever were tried, but all to no purpose. The maker was again approached, and suggested that the cam on the two to one shaft, which lifts the trembler and brings it in contact with the platinum pointed screw, was inaccurately placed, and he promised to send a new cam. Both these promises were made months ago, but have never been carried out, with the result that the motor-cyclist is so disgusted with the treatment he received from the maker that he has given up using the machine and sold it. Here we have an influential customer, whose goodwill the maker might have secured by a little attention (which would, of course, have been paid for), either concluding that motor-cycling is more trouble than it is worth, or else transferring his custom to a more businesslike firm.



A Group of Motor-bicycles Photographed at Westerham. It is interesting to note that out of sixteen motor-bicycles depicted above fourteen are Ormondes.



## OTHER PEOPLE'S VIEWS.

### Steam Motor-Bicycles.

Sir,—I was pleased to find, in your issue of 21st May, a description of a steam motor-bicycle. Several friends and myself are anxious to procure motorcycles, but owing to the difficulty of obtaining petrol here (Natal), and to the fact that the few petrol machines here already do not work very satisfactorily, we have not yet sent home our orders.

I should much like to hear from any manufacturers who would be prepared to make bicycles similar to the one described by "Steamer."

Would not a steam generator, similar to the kind used in the White steam motorcars, be better than a flat multitubular boiler? The cylinder would require to be double-acting, and, I think, more powerful than the one described, as our roads are both rough and very hilly. Two brakes would be necessary and, of course, pedals (I mention this because neither are shown in the sketch). A paraffin burner would be absolutely necessary; nothing else would be of any use to us.

I should like to mention the great amount of pleasure I derive from your most interesting and ably-written paper.—Yours faithfully,  
"PIETERMARITZBURG."

### Lubrication.

Sir,—I have read your articles on the above subject with great interest. As I have spent a deal of time experimenting with various lubricants perhaps you will allow me to supplement Mr. Wilson's articles and also to express my views on the point. With all deference to Mr. Wilson, mineral oil—and pure at that—should only be used in explosion engines. Animal fats contain acids, get burned up by high temperature, and emit nasty smells. They also foul the cylinder parts and altogether, in my opinion, are unsatisfactory. Mr. Wilson is right in his advocacy for using oils obtained by charcoal-filtering processes, and, as an oil expert, I should like to ask him how many oils so filtered (I mean stock) are obtainable in this country? The oils mostly used for lubricating purposes nearly all come from one source, and that a polluted one.

Some considerable time ago, in the motor press, I advocated the use of charcoal filtered oils in motors, and, so far as I know, this was the first note on the subject. I am glad Mr. Wilson agrees with me on the point, but why thereafter add animal fats?

For the benefit of the readers of "MOTOR CYCLING" I will describe the two processes for converting the crude oil stock into lubricants, and shew the benefits of the one and the great drawbacks of the other. One process—and almost the universal one (owing to its cheapness)—is to expose the crude stock in a suitable vessel to heat and thus evaporate the lighter oils. The residue (a crude mass of all sorts) is then purified by the admixture of sulphuric acid, and the clearer portion run off. It is attempted, by repeated chemical washings, to eliminate the acid from the oil, but, alas! it is a futile job. By no process at present known to chemists can the

acid each globule of oil contains be separated. When such oil is exposed to the concussion and great heat of a motor cylinder the acid is released for its deadly work on piston rings and cylinder wall.

In the aforesaid heating process for evaporating the lighter oils, there is no fixed temperature observed, and a great portion of the more valuable lubricating properties of the oils are destroyed. This, when the crude oil is not specially selected for its lubricating properties, reduces the value of the product to a vanishing point.

The best oils are produced from carefully selected stock; the lighter oils being evaporated at a fixed temperature. The residue is then slowly filtered through charcoal beds (a most expensive process) which leaves, along with rigidly fixed temperature, all the valuable properties of the oil intact. To use such an oil is a revelation. The motor gives more power, has a much longer life and, very important, there is little or no smell. It is also much more economical to use. I have run nine miles on a 3½ h.p. De Dion on one charge and with splendid results. To the best of my knowledge there is only one oil beyond reproach, as regards acid and foreign admixtures, and, although expensive, is well worth the extra money.

Thin oils for petrol motors are no good. The reason thin oil is used for gas engines is that deposits from coal gas require constant washing away, which thin oil accomplishes. Petrol leaves little or no deposit; besides, petrol motors running at much higher speeds soon dissipate thin oil, hence thick oils are the best. But my letter is far too long, and I will reserve other points for another occasion. To neutralise personal criticism I may at once say I am non-interested in the sale of oils, and am only an engineer and interested in the subject from an engineering standpoint.—Yours faithfully,

London.

GEORGE GIBSON.

### The Way to Overcome Dust Troubles.

Sir,—It may interest your numerous readers to know the idea I have recently carried out to obviate this trouble.

A short time ago I purchased an Ariel quad and, after several rides in which my

wife joined me, I was sorry to see the spectacle her dress and hat presented.

The idea occurred to me that I might obviate this partially if not entirely by covering up the front wheels in the same manner as a paddle wheel is on a vessel, so I procured some brown holland and got a cap made to fit half-way over the front wheels attaching same by tapes to the mudguard strap.

I put these on and took my wife for a run on two of the dustiest main roads, doing in all about 20 miles, and, on returning, to my—and her—agreeable surprise, she had scarcely any dust on her dress and the cushion on front seat appeared to have no dust on at all other than from the clouds of dust we encountered on the road, thrown up by other vehicles.

Probably some of your readers may doubt this, but I can only suggest that such an inexpensive experiment should be tried and I myself have no doubt as to the result. The idea could easily be carried out on cars having straps made to attach the covers to, and I think, might be equally as effective with mud as with dust; the covers being removed after each journey to shake out dust or get washed, if muddy. I should be pleased to show mine to anyone interested enough to try the effect, and intend trying to get same result on back wheels to save myself from this great drawback to the pleasure of motoring.—Yours faithfully,

T. WEEMING.

### Some Experiences.

Sir,—I believe you welcome accounts of experiences of riders of motorcycles and even their grumbles. Well, here are some of mine.

On the important question of lubrication, and on the closely related topic of a clean engine, I am coming to the conclusion that probably, we all overdose our unfortunate motors with oil. When I received my machine (a Derby belt-driven) I was instructed to give it a measure once every ten miles. Even to my inexperience this seemed far too much, and I began with 15 mile intervals, and, I may add, an oil-bathed crank case, out as well as inside. The relief valve I will refer to later, but that received attention—with but small improvement at first in general cleanliness—and then my periods of lubrication began to extend. Thirty-five or even forty miles now go by between oiling, and my engine runs cool. Of course, I use the throttle severely, but don't crawl by any means.

The ordinary pattern of relief valve might justly be named the "oil ejector"; it appears to have been designed for that especial object, and, in that respect, can hardly be improved. I have replaced it by one made by myself, in which, instead of the hole communicating with the air being situated just above the seating of the valve, I have provided a tubular cover extending some half-inch above the valve with lateral openings near the top, and have further surrounded this upward extension with a cover perforated at the top. In fact, the whole concern is rather like a miniature silencer, and it acts very well.

### NOTICE.

We intend shortly to run a series of articles to be entitled "The Petrol Motor, in Theory and Practice," which will deal lucidly and in as non-technical language as possible with the whole theory of the development of power in the internal combustion engine.

A further series will deal in an interesting manner with the "Applied Mechanics of the Motor-bicycle."

With respect to the motor, my sole trouble has been with the electrical fixings, and, in passing, I may say that a brother, who possesses a machine with magneto ignition, has had quite as much with his firing but, of course, in a different direction. Mine has been with the contact breaker—the Minerva type is not, to my thinking, substantial enough, it is far too small; much smaller and more flimsy than even the slight space available necessitates. This leads to my grumble.

The prices of spare parts charged to riders are, I think, excessive. I am acquainted with cost of small engineering and electrical sundries, so speak by the book. As I wanted a trembler in a hurry I had to buy one, and paid 3s. 3d.; say, about 2s. more than the thing is worth, allowing for the precious platinum. I have since replaced pellet, which masqueraded as that costly metal, by real platinum. I found five shillings' worth—that is, one pennyweight—sufficient to do about 12 tremblers and screws. The spring itself at, say, 6d. would pay a good profit to its maker, so there remains plenty for the most rapacious retailer to get a profit out of.

In conclusion, it is to be noted that by a careful perusal of your valuable paper, even of such articles as may not directly appeal to one, useful hints may be got. Racing has no charms for me, not even the Paris-Vienna scramble, yet in your report of the Westerham hill climb you refer to running the machine to start the engine before mounting. This is an excellent tip; I had not seen it before either described or practised. The exact "modus operandi" is this: You want an exhaust valve lifter by rights or, at any rate, you should have the compression tap open. Run by machine and directly engine runs freely—in a very few yards, I find—close tap and turn on spark and away she goes. You then have only to step on pedal and climb into saddle as deliberately as you like as the machine, being on the run, goes quite steadily. This is a specially useful mount up hill.

Again I thank you for the valuable and interesting reading your paper always affords.—Yours faithfully, E. B.

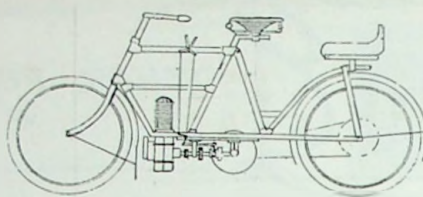
### Advice Wanted

Sir,—Have just noted G. Goude's letter in your issue of June 25th.

I should say the cause is due to either the exhaust or inlet valve shanks fitting too tightly, this leaving no room for expansion. I have known trouble from this cause, which can be easily remedied by reducing the shanks by filing. I have also known cases of a similar kind through the needle fouling in the spray carburetter. Naturally, before starting, the rider pumps a certain amount of petrol into the reservoir, which would possibly last the distance mentioned by your correspondent; this, supposing he uses a spray carburetter, may be the cause of his trouble.—Yours faithfully, HARRY H. MONKS.

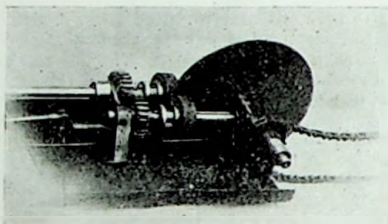
### New Motor Tandem.

Sir,—I beg to enclose sketch for motor tandem, or it might be called a bicycle and carriage, as they can both be comfortable seats, no pedals being required, and the frame need not be so long as the double-pedalled machine. I have designed the gearing to suit the ordinary width of tread for bicycle, and detachable spring foot-plates can be used any width and length to suit one's fancy, and pedals can be carried in case of break-down of motor, when they can be exchanged for foot-plates in a few seconds. The motor can be started with a handle, like a car. The drive is direct off the motor



THE TANDEM.

shaft, and by making the bottom of frame straight, the gearing, which is on a plate, can be easily fixed with four bolts. This gearing has a very powerful grip, and it will be observed that it provides a free engine and, of course, any speed at the right moment, as speeds can be changed while in gear with the engine running. The free engine is caused by the two small discs being made to move to or from the large one. The fastest speed is 7 to 1 and the slowest 15 to 1, and



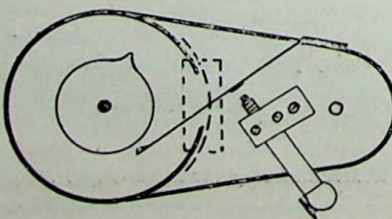
THE GEARING.

any number of speeds in between. I have tested this at the rim of road wheel for the grip; it gives the same brake power on the fastest speed at the rim of road wheel as the 14 h.p. motor trike I tested it against, with the same ratio, 7 to 1, and same size road wheel. I used same motor in both cases at its fastest speed, and at lowest speed could get more than three times the brake power without the gear slipping. You will note that a small motor will do on a bicycle with this gear. The weight of the gear is about 9 lbs. The entire machine need not be heavy. This gear can also be applied to motor-tricycles, by making the bottom of frame like bicycle frame, which you will note has two tubes carried through from back wheel. The tricycle is driven by a chain wheel in place of gear wheel on back axle, and a tandem seat can be used instead of trailer.—Yours faithfully, GEO. FREESTONE.

### How to Prevent Oil Getting on Trembler.

Sir,—To those of your readers who may experience trouble with their Minerva engines in consequence of oil getting in the contact breaker. I can recommend the following expedient which I have devised as being an excellent remedy. By adopting it, no oil can possibly get beyond circular space in which the cam works, and the trembler, therefore, remains absolutely free from oil.

The enclosed illustration shows the contact breaker with the cover off.



The curved dotted line shews a strip of thin sheet rubber fixed to the brass with seccotine. A very small hole is made in the rubber, through which the trembler is passed. This does not, in any way, affect the free action of the trembler.

The straight dotted lines shew a piece of rubber fixed inside the aluminium cover.

I have ridden my machine several hundreds of miles without once having to wipe the trembler, nor have I yet had to renew the rubber. I should be pleased to hear what your readers think of it.—Yours faithfully, R. WOOD.

### A Motor that Fires without a Spark or Ignition Device.

THE APPLICATION OF A NEW PRINCIPLE.

It will doubtless be news to many students of motor engineering that there exists at the present time—and, in fact, is in successful operation—a gas motor that possesses no ignition apparatus whatever. The motor is the invention of a German engineer, Herr Diesel. The principle of action of the motor does not in the main differ greatly from that of the four-stroke cycle engine so much adopted, but it is in the ignition of the charge that a new principle is involved. In the usual type of internal combustion motor the mixture of gas and air is compressed up to 45 lbs. per square inch, or in some types of large motors even up to 80 lbs.—high compression, as is generally known, resulting in economical running. This compressing of the charge raises its temperature, and it was this fact that gave Herr Diesel the germ of his invention. He came to the conclusion that, if the compression was raised greatly, it would be possible to fire the charge by its own heat, as it were; but it was not found practicable to produce this high compression entirely within the cylinder itself, for several reasons. Instead, therefore, of drawing in the gas and air together and compressing them to great pressure, Herr Diesel compresses the air separately in the cylinder to about 500 lbs. per square inch, and then, by means of a pump worked by the motor, he compresses more air to a still greater pressure. There is, therefore, a charge of compressed air in the motor cylinder and an outside charge contained in a reservoir.

### HOW THE COMBUSTION IS EFFECTED.

The compressed air in the cylinder of the motor is at a great heat—sufficient, in fact, to fire the oil when this is injected into the cylinder in the form of a fine spray. To get the oil into the cylinder, it has to be forced in by means of the highly compressed air that is contained in the reservoir. This sprays the oil through a series of small holes, and the instant it comes into contact with the hot air in the cylinder combustion at once takes place.

One great advantage of the system is that the charge does not ignite with a sudden explosion, but the combustion and rise of pressure in the cylinder is gradual. Hence this motor more nearly approaches the steam engine from the point of view that a much more equal turning effect on the crank shaft is produced. Of course, air cooling would not be applicable to this type of motor, and the usual water jacket has to be adopted. A remarkable feature of this motor is that the crudest petroleum oils and naphthas may be used equally as successfully as the purified products. There is absolutely no smell or smoke from the exhaust, and the cost of running comes out actually less than one-tenth of a penny per brake horse power per hour.

## OUR INFORMATION BUREAU.

A large number of replies have been dealt with through the post. Information on all subjects pertaining to Motors, Motorcycles, and Motoring generally will be given to readers who seek such information or advice. Any reader who desires to ask a question with a view of ascertaining the views of other riders based upon actual experience should send his query, which will be inserted, and replies to such questions will duly appear if of general interest; if not, a reply will be sent by post; a stamp, therefore, must always be enclosed.

W. H. Jennens, 149, Lozells Road, Aston, Birmingham, asks for the address of manufacturers of liquid air. Can any reader let him know?

S. Downs (Crewe).—If the contact pillar is insulated from the frame it is quite possible that you will get a short circuit. The best thing for you to do would be to file the top of the contact pillar slightly so as to clear the case.

T. H. Symonds (Field Force, South Africa) writes:—"Have pleasure in renewing subscription to 'MOTOR CYCLING' for further three months. Have seen but one motor-bicycle in the Transvaal personally. Roads very bad, even in towns."

G. Shaw Scott (Sutton Coldfield).—You will find the addresses of some firms who hire motorcycles in recent issues of "MOTOR CYCLING." All the four machines you name are good ones, but for ourselves we should select a Humber or Singer.

"Regina" (Bicester).—Both the machines you name are excellent, but we think you would be better suited with the Excelsior as, being the simplest of the two, you will have no difficulty in managing it; and as for disposing of high class motor-bicycles, good prices are readily obtained.

### Wants a Reliable Machine.

H.W.H. (Croydon) is about to invest in a motor-bicycle. He is an experienced cyclist, and speed is a secondary consideration, and he does not object to doing a reasonable amount of pedalling up hill. Lightness, appearance, and reliability are to be desirable features of the machine he wants to get. Can we mention a few makes possessing these features? Amongst others there is the Quadrant, Excelsior, and Werner that would give him satisfaction.

### A Chain Drive Idea.

W.H.B. (Ely) has a Werner motor-bicycle and would like an opinion on the following idea concerning the drive. He says would it be possible to replace the motor pulley with a cog and use a chain? The back driving rim would be leather faced, so that the chain would get a good grip. If the idea is feasible what size chain would be best; would the 3-16th inch bicycle chain answer? We believe this idea is a workable one providing you use a broad chain—not less than 1 inch wide would be of much use. Then the addition of a small adjustable jockey pulley would be an advantage for hill climbing to get the necessary tension.

In reply to "Whizzer," Messrs. G. F. Heath and Co., 123, Holloway Head, Birmingham, say that they have a hire department.

H.T. (Warminster).—The Singer would be one of the most suitable machines for your requirements. Some accumulators, as you say, lose their charge—due to short-circuiting of the plates most probably.

R.F.B. (London, W.)—Wet batteries are not a complete success for charging accumulators, but we believe the E.I.C. to be the best of its kind. Calvert's chain gear and gripping pulley are sound articles.

H.W.K. (Bromley, Kent).—You would not be able to put the same power or pressure into each stroke, it would be necessary to gear lower and pedal at the same rate and thus get a lower speed. A 56-inch gear would be about right.

G.F.C. (Birmingham).—We doubt whether it would be possible to get a machine embodying all your suggestions. The Singer motor-bicycle is the one that would seem most suitable. You could, of course, have the Minerva set fixed to a B.S.A. machine. You would require a 15s. licence. We do not know of a brake for trailers.

### Wants a Good Trailer.

A.S.T. (Palmer's Green) wants to know of good trailer to attach to his 2 h.p. Humber motor-bicycle, and also the makers of a suitable shed for same. There is the Royal Eagle trailer made by Coventry Eagle Cycle Co., Coventry, and another good one by Stretton's, of Cheltenham. The Portable Building Co., of Finsbury Pavement House, would supply a suitable cycle house.

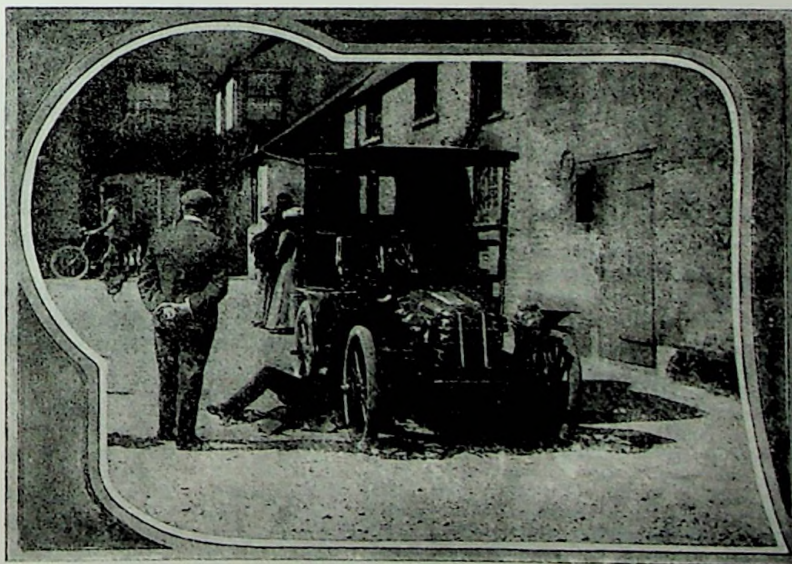
G.W.B. (Rugeley) will be able to get sparking plug cement from Brown Bros., Ltd., Great Eastern Street, London, and repairing material for celluloid accumulators from Peto and Radford, Hatton Garden, London, we should think.

"Subscriber" (Turin).—The maximum power that the new De Dion bicycle motor will develop is 1½ h.p. Efficient cooling is obtained by special design of the radiators on combustion chamber. It is not intended that the motor should be run at 4000 revolutions for more than a few minutes.

W.H.T. (London, W.C.).—The Hewitson motor-bicycle is one of the best of the magneto-ignition type. You would also find the Singer an excellent machine. The reason the system is not more adopted, we think, is because somewhat different designing of the motor details is necessary and it cannot be applied direct to the standard pattern.

T.H.P. (Warwick).—We note your complaint and will do our best for you in the way of having it removed. The only explanation we can offer is that the company is heavily taxed with orders, etc. There should be ample power for a trailer with 1½ motor, and as regards heavy consumption of petrol, your carburetter is clearly out of adjustment.

"Ariel" (Liverpool) asks us to let him know (1) what speed the Ariel quad (3½ h.p.) will do. (2) Does the two-speed gear work well? (3) Can the engine be started up independently?—(1) We should say that the Ariel would be equal to 30 miles per hour on a track. (2) The two-speed gear is one of the most reliable. (3) We do not think a starting handle is fitted, but a free engine clutch is fitted.



LOCATING TROUBLE.

A scene in the yard of the Old Salisbury, Barnet.

A Reader (Oldham).—Try Smith's, of Saltley, Birmingham, or Components, Ltd., Bournville, Birmingham.

#### Belts.

H.H.B. (Glastonbury) wants to know (1) where he can get his sparking plugs repaired. (2) Is it possible to get a driving belt with a steel wire running inside?—Calvert (see adv.) would probably repair the plugs. (2) We do not think there is a belt with a steel wire inside. The Lincona is an excellent belt, if your pulleys are large enough to take it.

#### A Suitable Type.

W.T.L. (Preston).—The machine we should recommend as being most suitable for you from the list would be No. 5, or of the same type—an Excelsior. But there is even a more suitable one you do not include—viz., the Singer, which has established a name for reliability. Both systems of ignition are good, and each possesses its own special merits, but there are, of course, drawbacks with either system.

#### From Natal.

G. H. Raymond (Natal).—You might with confidence invest either in an Excelsior or a Singer. The latter has self-contained magneto-electric ignition, which is very convenient when one is stationed away from an electric supply station. There are so very many cars almost all equally good that it would be difficult to single out one, but we might mention the 4½ h.p. De Dion voiturette as being in the front rank. Write the makers, De Dion-Bouton, Ltd., 28, Brook Street, Bond Street, London, W.

#### Irish Roads.

A.H. (Glasgow) would like to know of the suitability of the roads in Ireland for motor cycling, and also whether a trembler on the coil is an improvement.—The coast roads of Ireland are very fair for motoring, and so also are a few of the main inland roads. He will be able to get a list of petrol depots from Messrs. Capel, Carless and Leonard, Hackney Wick, London. 1s. 6d. per gallon is certainly a high price for petrol in a large city; 1s. 2d. is about the average price. We are of opinion that a trembler on the coil is an improvement over the contact breaker.

#### Motor Runs on Stand, but not on the Road.

J.W. (Swansea) has just finished making a motor-bicycle and cannot get it to work satisfactorily on the road although it goes well on the stand, but he has to shut off some of the air supply to the carburetter. What is likely to be the cause? Providing the sparking gear keeps in adjustment when on the road, it seems to us that the trouble lies with the carburetter, and the best thing to do is to experiment with the mixture till he gets it to fire. It probably wants more air shutting off.

#### Hard Work for the Motor.

H.P. (Liverpool) is about to take a holiday of about two weeks and intends to tour on his Minerva motorcycle with a trailer. The total distance would be under 1,000 miles. Would the motor be able to stand the strain? The addition of a trailer to a 1½ h.p. motor for such a distance is rather putting a tax on the machine, but if the roads are fairly level and the pedals are used to assist on hills, the motor should stand. Some Minerva motors have run thousands of miles without renewals, but it is not reasonable to expect to get 10,000 miles out of it.

H. B. Ryman (Sale) rides a Butler 2½ h.p. tricycle, but is anxious to go in for a motor-bicycle. He rather fancies the Royal Sovereign, and would like to know any of our readers' experiences with this machine. Our opinion is that it is an excellent machine at the price. Thanks for complimentary remarks about "MOTOR CYCLING."

#### A Rotary Engine.

A. S. (Southampton) has invented a rotary petrol motor which works without cranks, gear wheels, or valves, and has four impulses per revolution and only one sparking-plug. However, he has no capital to take out a patent and develop his invention, and he asks us what he had best do. Our advice is for him to protect his invention at a cost of a guinea and then try to get some firm to take it up if it really has merit.

#### Exhausted His Accumulator.

R.H. (Blackburn) forgot to take the connecting plug out of his switch after a run one evening, and someone screwed up the switch handle and left it on all night. On trying to get a start next day, he found that there was not enough current left in the accumulator to spark the motor more than 100 yards. He immediately sent the battery to be recharged, and it seems all right again so far, although he hasn't tried it on a long run. He wishes to know if he is likely to have injured the battery at all. The contacts of the trembler must have just been together, and so caused his accumulator to run down, as it doesn't often occur that the current finds all three paths open together. It is not likely that the battery is injured; its full capacity, however, may not be attained till after two or three chargings.

#### Oil Getting on the Motor Pulley.

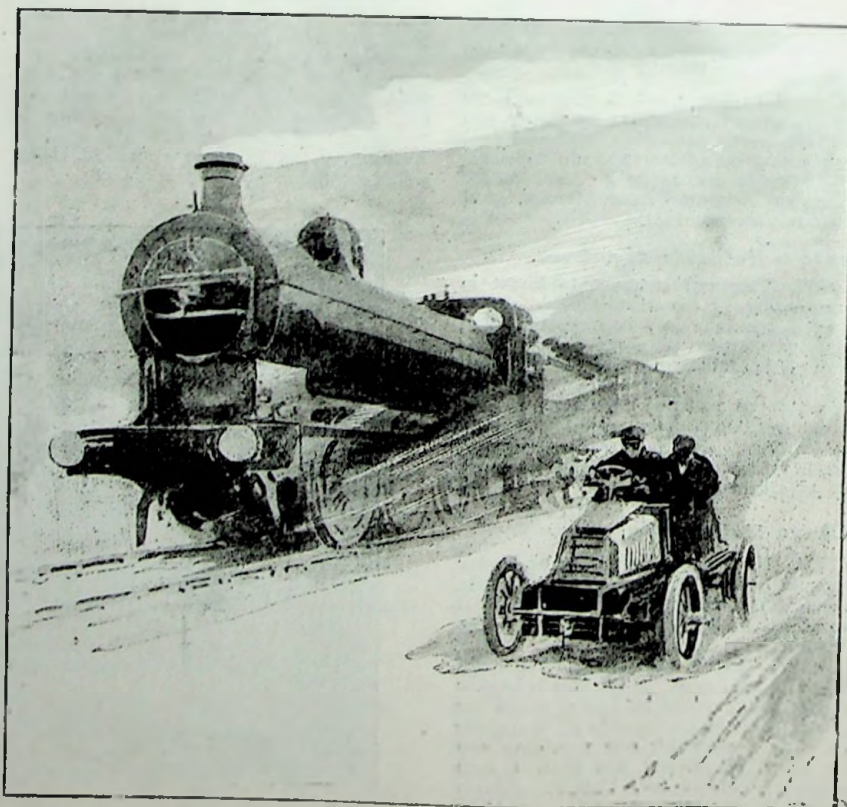
E.L.F. (York) has a Werner motor-bicycle which goes well, and the only trouble is caused by the oil getting on to the motor pulley, and making the belt slip on hills. How can he prevent this? It seems to us that he is too generous with the lubricating oil, and if he oils less frequently the trouble should cease.

#### Carburation Queries.

G. D., Burnaston (Etwell), asks our opinion concerning dimensions of surface carburetter. (2) Is it absolutely necessary to warm carburetter from exhaust to get results? (3) Would it improve carburetter to thread round wicks through the splash plate? (4) Would it be an improvement to fit a small hood or cowl to the air chimney so as to keep rain out?—(1) The dimensions are ample; (2) not absolutely necessary, but good in cold weather; (3) yes, but use flat wicks; (4) distinct advantage, we should say.

#### Werner Carburetter.

R.A.B. (Doncaster).—The original pattern of the Werner carburetter often proves difficult to manage, owing to its not supplying enough vapour under all conditions. You might try shutting up some of the air apertures in tank, as the air seems simply to get sucked in through the upper part of the gauze box and straight away into the cylinder. Best of all would be to try and get a spray carburetter fitted, such as the Roubeau. We know the old Werner carburetter requires a lot of understanding. Perhaps some of our readers would send on their experiences with it.



A Flight of Fancy.