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29TH MAY, 1916.

OTORIS



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7



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# The G.W.K. Light Car

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This improved 1916 model just arrived from works. **Make sure of one now.** Immediate Delivery. Special wide body, five detachable wheels, five lamps, valanced mudguards, etc.

WILKINS, SIMPSON & CO., <sup>11</sup>, Hammersmith Rd. London, W.

Ready shortly.

8

# A Manual of Motor Mechanics and High Efficiency Tuning. By L. MANTELL.

Many motorists make adjustments to their engines, but few know exactly why these tuning operations are carried out. The object of this book is to describe the basic principles of the car engine. All the functions of the engine are dealt with in turn, and the principles of design underlying them are made plain. A special section is devoted to the important subject of carburation, in which all the principle makes of carburetters at present on the market are described, and hints on their correct tuning given. The subject of tuning for high efficiency is then reviewed and some interesting particulars given of the preparation of cars for racing.

While of the greatest interest to experts, the book is written in such easy language as to be easily understood by novices.

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Minor

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29TH MAY, 1916.

# LIGHT CAR INSURANCE

Comprehensive Policy, covering— THIRD PARTY RISKS, Unlimited. ACCIDENTAL DAMAGE, FIRE, THEFT, and TRANSIT, including lamps, tyres and accessories. 10 % BONUS for no claim.

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MOTOR POLICIES - At Lloyds.

'The Light Car and Cyclecar," 29th May, 1916.



Descending from Buttermere Hause in the Lake District.

### NOTES, NEWS AND GOSSIP OF THE NEW MOTORING.

No Sunday motoring

Turns out to be a myth after all.

The Board of Trade have given a categorical denial to the statement that they are about to stop it.

The more one goes into the scheme the less likely it appears that such a regulation will be adopted, which is why we have said nothing about it the last two weeks.

There is still no information with regard to the motor taxes, but it is freely anticipated that the increased imposts will be dropped in favour of a small increase on petrol.

Up to the moment of going to press there is no further increase to record in the price of petrol, which remains 5s. 8d. per can for No. 1, although that is the price the dealers are charging for No. 2.

A service of 25 Stellite light cars is maintained between the huge works of the Electric and Ordnance Co., Ltd., and associated factories in the Birmingham district. The cars are in constant use and frequently have to carry four or five persons.

While several projects are taking definite shape to produce cheap British cars on the basis of huge outputs, nothing apparently has yet been done towards the production of cheap British-made accessories. If there is to be a tariff, here is an opening for a great British industry to meet German trade. Honister Pass climbed.

Two A.-C. light cars have successfully tackled this notorious gradient from the Buttermere side.

The first published illustrations of this remarkable feat appear on our centre pages this week.

The illustration above shows the two A.-C. cars descending from Buttermere Hause, which was also climbed prior to tackling the notorious pass.

Lighting-up time 9.37 p.m. (for London-later for the provinces). How it makes one appreciate the value of the Summer Time Act!

In to-morrow's issue of "Motor Cycling" there will appear a very interesting article on the injection of steam into the cylinders, the application of which applies equally to light car engines.

Mr. Charles Jarrott, the famous motorist, who is a member of the Cyclecar Club and Commander of the  $\Lambda$ .A. Section of the H.Q.C.D. Special Constabulary, has been gazetted as a captain in the R.F.C.

The very popular road between Esher and Leatherhead, over Ockham Common, a favourite picnic ground of South-West London motorists, is the scene on Sunday mornings of an occasional unexpected "trap."

Those who drive at night should be careful when overtaking Red Cross vans, the drivers of which usually turn off the main road into private drives leading to improvized hospitals, and give no warning for fear of disturbing their passengers.

### NOTES, NEWS AND GOSSIP (contd.).

Captain Stenson Cooke, the secretary of the A.A. and M.U., figured last week in an action against a lady motorcyclist as the result of an accident in which his car and the lady's machine was involved. Judgment was reserved.

### British Magnetos.

The Electric Ignition Co., Ltd., of Birmingham, inform us that they have produced well over 15,000 all-British E.I.C. magnetos since the outbreak of war. This is a motorcycle model, but other types for light cars are in course of preparation.

### C.A.V, Ltd.

The business of C. A. Vandervell, makers of the well-known lighting sets, has been turned into a private limited liability company with a capital of £350,000. Mr. Vandervell was one of the first people to tackle seriously the problem of producing reliable accumulators for motor work.

### A Seized Back Axle.

Recently we encountered on the road a driver of a light car who had come to a sudden stop at the top of a short hill. Previously the car had been running badly, especially at the end of a run. The trouble was that owing to lack of lubricant the wormdriven back axle had seized. Paraffin and the proper lubrication effected a remedy, and no serious damage appeared to have been done. The owner confessed that he had never greased the back axle for the last two years!

### Unusual Detachable Wheel Trouble.

An unusual accident we observed last week was a case of a front wheel suddenly collapsing on locking over. It was of the detachable type, supported on five studs. The two uppermost studs had broken off and the others bent by the additional strain suddenly put upon them. On examination the top studs were found to have rusted right through. In all wheels of this type it is most important to grease the studs as well as the hub, which not only facilitates removal, but prevents the studs wearing or rusting up solid with the wheel. The car was an old one that had apparently never received attention in this respect.

### His Unfortunate First Experience.

At a recent inquest, the driver of a car who was involved in the accident put forward the novel defence that he had often watched other people drive cars and saw no reason why he should not do the same when the real driver was taken ill.

### New Rhymes to Suit the Times.

Several weather saws have gone wrong since the introduction of the Summer Time Act. Thus: "Rain before seven, clear before eleven," and "Between 12 and 2 one can tell what the rest of the day's going to do." New rhymes to suit the times are evidently necessary.

### New Scottish Lighting Order.

More stringent lighting regulations for certain parts of Scotland have now come into force, and in the following places dimming discs must be used in sidelights other than those burning oil: Aberdeen, Arbroath, Dundee, Dunfermline, Dysart, Edinburgh. Kirkcaldy, Leith and Montrose.

### The Cost of Motoring.

An article of great interest appears in "The Motor" this week dealing with the chief elements in the cost of motoring, and giving graphic evidence by means of a chart of incidence per mile. This is a subject of great importance at the present time, and owners of light cars will find it very instructive.

### Dodging the Taxes.

A large number of car owners are dodging the taxes this year on account of an expectation of being called up for military service, while those in the services seem to make it the rule rather than the exception not to register their cars. As a result a number of prosecutions for these offences are now being dealt with by the courts.

### Putting on Patchquicks.

The other week-end we drove an old car the previous owner of which had never known how to put on Patchquick patches, of which he had made plentiful use. One after the other they came off, and apparently had been put on like postage stamps. Probably the user thought they were ready gummed for the purpose! Patchquick patches we find never come off if the Patchquick solution is used and the surface of the tube buffed up with a wire brush or piece of sandpaper and not merely cleaned with petrol.

### STOPPING (?) WEEK-END MOTORING.

### Pleasure Motoring-Latest.

The political correspondent of the "Daily Mail" states that the investigations of the Petrol Supply Committee have revealed a necessity for "drastic measures" and adds: "Vehicles used solely for pleasure motoring—both private cars and public chars-a-bancs—will have to be greatly limited or stopped altogether by order. The Committee have full executive powers." As there is not a man on the committee with technical knowledge, we await with interest any new order. but at the same time would point out that the intelligent anticipations of political correspondents are frequently denied officially.

### Nice for the 90,000 Members.

Mr. Joynson-Hicks, M.P., Chairman of the A.A. as reported in a "Daily Express" interview, the journal which forecasted stopping week-end motoring: "While I am strongly in favour of stopping private motorcar jaunts, I do not agree with the suggestion that the new order should apply to motor 34 omnibuses which take the workers on Sundays out into the country." According to "The Motor" Mr. Joynson-Hicks is the head of the firm of solicitors who act for the London General Omnibus Co. An "official" of the A.A. is reported by the "Weekly Dispatch" to have expressed the opinion that motorists would not complain if week-end motoring were stopped! The Board of Trade have denied that they have any intention of stopping Sunday motoring, however.

### Questions in the House.

While we congratulate the R.A.C. on the monumental evidence of the business uses to which private motorcars are now put, we wish they would induce their members who are also M.P.s to put in strong protests against the exaggerated and biassed views expressed in the House of Commons upon so-called "pleasure" motoring. In face of the evidence it is ridiculous for members to press for a stoppage of private motoring, and to urge as a reason that considerable labour is being diverted to the repair and upkeep of such cars.





Mr. and Mrs. Stanley Wrench and a Zebra light car. Mr. Wrench is a London dealer in second-hand cars. Mrs. Wrench is the well-known novelist, whose sensational novel, "Burnt Wings," has just been filmed, and is now figuring prominently at many London cinema theatres.

23

On Sunday, 21st May, a great rally of old-time cyclists was organized by "Cycling" on the Ripley Road. Thousands of cyclists gathered at the Bear at Esher and the Talbot at Ripley, and several old Ordinaries were ridden down the road. The photo. shows Mr. Attlee, of the Cambridge U.B.C., alongside Mr. Oates, on an Oates-Lagonda light car, at Esher.

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B5

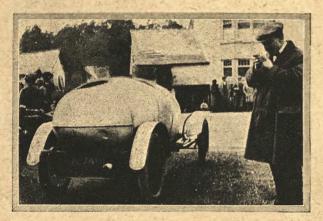
### NOTES, NEWS AND GOSSIP (contd.).

### A Petrol Paraffin Carburetter.

The address of Messrs. Lawrence King and Co., the makers of the King paraffin attachment described last week, is 122, Alma Street, Birmingham.

### Not Left-handed Steering.

No-gentle reader—the Swift Co. are not producing a 10 h.p. model with left-hand steering. The explanation of the illustration on page 15 of last issue is that we have a left-handed photo-printer, and the photograph reproduced was merely printed the wrong way round.



The cult of the bulbous back. An extraordinary example on a Bugatti formerly belonging to Mr. Pemberton Billing. The gentleman on the right is Mr. H. P. McConnell, the captain of the Cyclecar Club.

### Military Hogging.

The speed of military cars has much decreased of late, but we saw a horrible case of "hogging" in a Sussex lane the other week-end, a big Daimler driven at such a speed round a corner that it skidded from side to side, narrowly missing a dog, another car and a little child who was standing at the very edge of of the road. Inches only saved the child's life.

### The Light Car to the Rescue.

On a steep hill in the South of London last week the owner of a Singer noticed the driver of a horse and cart in difficulties. His humanitarian instincts being uppermost he volunteered his services, which were accepted, and the Singer was duly hitched on to the front of the cart. By racing the engine and slipping the clutch a little, and the assistance of the horse, the cart, which was very heavily loaded, was again set in motion and topped the hill almost at a trot.

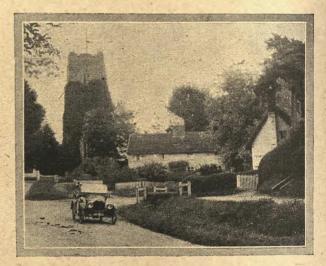
### Taught Him a Lesson.

A cyclist on the Portsmouth road the week-end before last—and there were thousands—had an experience that will last him for a good while to come. A car had been endeavouring to pass him for some time, and as it did so at last, the cyclist grabbed at the hood, and managed to get hold of it, and, as the car increased its pace, was pulled violently along. Then those following saw a strange thing, for the novice's bicycle gradually assumed an acute angle to the rider clutching frantically to the car, until both parted, and the cyclist bit the dust, his impetus rolling him some 30 ft. When picked up, he protested he was not hurt, which was perhaps the most marvellous part of the incident. \*B6 Two Sidelights.

After 1st June, the police in the metropolitan area have strict instructions to summon every driver of a car who after lighting-up time displays only one white light to the front instead of two, indicating the full width of the car. In this connection it is interesting to note that the Petersfield police, who have always too literally translated the meaning of the Motor Car Act with regard to lights on cars, are again summoning motorists if the off-side lamp is only a few inches from the extreme off side of the vehicle.

### A National Council of Motorists.

"The Field" is suggesting the formation of a national council of motorists, composed of representatives delegated by the R.A.C., the A.A., the A.-C.U., and the three trade bodies, the S.M.M.T., the C.M.U.A., and the M.T.A. We would also suggest the addition of the Cyclecar Club, as none of the other bodies really adequately represent the interests of the light car and cyclecar user. It is suggested that the three heads for the deliberations of this council should be taxation, motor fuel and the industry, including the retail trade.



A charming snap of Earl Soham, Suffolk. A Humberette is in the picture.

### Lighting-up Time Order.

An order has been issued giving instructions to the police that the Summer Time Act makes no difference to lighting-up times, which remain, as heretofore, half-an-hour after sunset to half-an-hour before sunrise.

### **Our Front Cover.**

The slender spire of the early English church at Wisborough Green, which is such a familiar landmark in the north-east corner of Sussex, forms the subject of our front cover picture this week. The church stands on a hill, and in winter time a very good picture can be taken from the east side of the village, but as soon as the trees are in full leaf the church is almost entirely hidden, only the spire being visible. The car in the photograph is the Stellite described by "John Gilpin, Jnr.," this week, a 1914 model with sundry improvements incorporated and a new streamline body. It is a car that has had a very rough time, for, apart from it being used for carrying four or five people between munition factories and the Midlands, it had to remain for the best part of a week in a deep snowdrift after the March blizzard. Its many adventures have somewhat strained the near-side running board.

### TESTING A USED CAR. The Advantage of Purchasing a Tested Second-hand Car. A Test and What it Revealed.

HOSE of our readers who pass along the Euston Road, which has become the heart of the second-hand light car business in London, may have noticed the title of a concern, the style of whose lettering will have a familiar aspect. The Light Car Co., "specialists in light cars and cyclecars," have paid us the compliment of adopting for their fascia the facsimile lettering used in our title on the cover of this journal. The Light Car Co. is run by Mr. Stanley Wrench,

The Light Car Co. is run by Mr. Stanley Wrench, husband of the well-known novelist, whose story "Burnt Wings" has just been filmed. Mr. Wrench is one of the oldest men in the motor trade, and since the beginning of the new motoring movement has specialized in light cars and cyclecars; particularly in overhauled second-hand models.

### The Standard of Prices.

It is often asked whether it pays to go to a second. hand dealer or whether it is more economical to pur-chase a car privately. The respective prices of any popular make which one may see advertised generally indicate an approximate standard of value so far as the dealers are concerned, but when it comes to purchasing privately one is often led to wonder why one particular advertiser thinks his car is worth £20 more than another, the date of the model being the same. The obvious suggestion is that the one is in pretty bad condition, while the other is priced more than its worth. On the other hand, the dealer in used cars worth. On the other hand, the dealer in used cars knows the exact value of any popular make for any given year, providing the car is not merely in a good state of repair, but in as good order as a careful overhaul can make it. The private seller has no responsibility, and may part with his car without mentioning its bad traits, the incipient development of which he knows only too well, and therefore rarely of which he knows only too well, and therefore rarely goes to the trouble of having the car overhauled first before selling it. In fact, the very reason he wishes to get rid of it may be that on the last occasion he took off the cylinders and cleaned out the carbon deposit he discovered the bearings were practically worn out. On the other hand, the second-hand dealer has got a reputation to maintain, and people like the Light Car Co. have made a speciality of having overhauled as a preliminary to a sale the cars that pass through their hands, with, of course, the necessary replacement of all worn bearings or faulty parts. The result is that the cars go out practically as good as new with an enhanced value.

### A Trial Run.

Recently Mr. Wrench suggested that we should take any car in his showrooms and give it a trial run and report upon its condition, which we accepted. From those available we selected a Hillman which had only just that moment come in from the works after having the engine rebushed, the whole chassis overhauled, and the body repainted. As the car had only just come in Mr. Wrench had not had the opportunity of giving it a preliminary run, which he makes a practice of doing before putting it in the list for sale. His knowledge, therefore, as to its condition was a minus quantity. In a few minutes it was filled up with petrol and oil, started up at the very first turn of the handle, and we were soon proceeding through the densely crowded streets on a Saturday morning en route for St. Thomas's Hospital. Here we picked up two stalwart wounded soldiers, accommodated with a



### the Hillman after the test.

certain amount of ingenuity abreast in seats really designed for two, and took them for a gentle spin of some 20 miles.

The test discovered exactly what would have been found out in an ordinary trial run. The steering, after being taken down and certain parts renewed, was a little stiff. The carburetter setting was faulty, and the gear pinions would not always come out of mesh properly. Adjustments were made, the Solex carburetter "tuned," and by the time we took the car back, when the engine had run in, it was running very sweetly indeed. Other points required attention. A slight radiator leak developed; the springs, which had been stiffened by rust and paint, wanted greasing; and the hand brake required a new spring to keep it from jumping out of the ratchet; but all these details will receive attention as a matter of routine. Finished in grey and with black wings, and with the reputation that the Hillman enjoys, the car should certainly fetch its price of £180, although by the time this issue appears it will probably be sold. The Light Car Co. handle a great many popular makes of light cars, and are always willing to do a deal, either buying an old car for overhaul and subsequent resale or selling models from stock.

It must be understood that the test we gave was one that would ordinarily be carried out, and the points that called for attention seen to. After being overhauled a car must be run in, when numerous detail troubles will probably develop and can be put right. Then the new owner will receive a car in practically perfect condition.

When purchasing from a private seller, it must be borne in mind that the average user is notoriously careless, and the expert overhaul therefore has many advantages. It is only when the user has taken exceptional care of his machine in every respect that one can feel sure of a car purchased in this way. For those who cannot gauge the condition of a car, it is better to buy from a dealer who will guarantee that the car has been thoroughly overhauled and tested.

Jopies of the Day

### The Bogey of Sunday Motoring.

URING the past fortnight certain daily papers have assiduously cultivated a rumour that the Petrol Supply Committee of the Board of Trade--which denies it-would recommend to the Government the total prohibition of the use of all motor vehicles on Sundays. Even motorbuses and taxicabs were to cease running-leaving the municipally-owned tramcars a free field; and presumably doctors cars, motor fire-engines, and every other vehicle in which petrol is consumed from necessity was to stop, too, although, no doubt, the military authorities, who are a law unto themselves, would have gone on as before, making, of course, a liberal use of the vital spirit for washing clothes. The plight of the motorist who would have to stop his car at 12.1 a.m., Sunday, and stop where he was for 24 hours, was calmly ignored, nor were suggestions offered as to how such a ridiculous regulation was to be enforced. The great public inconvenience of such a regulation, and the serious hindrance to the munitions industry, were other points above the lofty consideration of the purveyors of alarmist rumours. Even if they considered that necessary motoring should continue, it would puzzle the Cabinet to devise a scheme to determine what that was, and give them a still greater problem to unravel in the administration of the order. The cream of the joke was the interview with Mr. Joynson-Hicks, M.P., chairman of the A.A. and M.U., whose sympathies with motorists were ably demonstrated by his endorsement of the proposal, with the reservation that motorbus users should be exempted from the inconvenience, and often serious loss, with which all other car users were to be penalized. At least, so he is reported.

### "The War After the War."

WE are glad to see that the "Daily Mail" has begun a campaign to prepare the ground for the greatest war that is yet to comea trade war against enemy countries. Only recently we indicated that the more enterprising concerns in the newest branch of the motor industry, that devoted to the manufacture of light cars, are already setting up plans for combating neutral and enemy "dumping" after the war. They are hampered, as always, by the lack of definite information with regard to the Government plans as to taxation and import duties. An alteration of the basis of taxation has long been under contemplation by the Treasury, and any fresh proposal obviously affects the designs of future cars. The manufacturers, therefore, who are preparing their post-bellum models, estimating their output for any 12 months imme-diately following the war, and booking up agents' contracts now, as many are doing, are working entirely in the dark. They have also to contend with a possible American and German invasion of cheap cars, with only the pious hope that the Government will put a prohibitive tax on such imports to encourage them in preparing for a great expansion of this comparatively young industry. More important still would be to know definitely that a reciprocal tariff between the United Kingdom and her overseas dominions was to be arranged, which would then justify the development on a very large scale of special Colonial models at prices that, with the assistance of protective duties, would practically. keep out foreign cars altogether. We trust that our lack of preparedness for the present war, in spite of continual forewarnings, is not going to prove a precedent for Government inaction in the war after the war. The advantages of a tariff are clear enough, and even the possible opposition of the agents, who for quick sales have hitherto had to depend largely upon American imports, would be met by the various projects now afoot to produce cheap cars in this country to meet such competition. We should also take precautions to see that the capital employed in these schemes is solely British, and thus obviate the possibility of large profits finding their way to foreign shareholders. **B8** 





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In order that the minimum of In order that the minimum of paper shall be wasted, readers can co-operate by always pur-chasing their copy of "The Light Car and Cyclecar" at the same place, or, better still, by placing a definite order for the journal to be sent to them. In this way waste of paper will be prevented, as the nublichers will be in a the publishers will be in better position to calculate the exact demand.

#### Letters.

EDITORIAL Communications should be addressed to The Editor, "The Light Car and Cyclecar," 7, 9, 11, 13 and 15, Rosebery Avenue, London, E.C.

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Letters relating to ADVERTISEMENT and PUBLISHING Departments should be addressed to The Manager. SUBSCRIP-TIONS should be forwarded to the Manager (rate, 6s. 6d. per annum, or pro rata).

ADVERTISEMENT COPY, Blocks, &c., should come to hand by Tuesday morning to ensure careful attention and allow time to submit proofs, except when an earlier time is specified.

### Return of MSS., &c.

Drawings, Photographs and MSS. not suitable for publication will be returned if sufficient stamps are enclosed for this purpose, but the Publishers cannot hold themselves responsible for the safe keep-ing or return of contributions.

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"The Light Car and Cyclecar" will be 116 regularly at the following rates:-12 ms. 6 ms. 3 ms. United Kingdom 6s. 6d. 3s. 3d. 1s. 8d. Canada ... 8s. 8d. 4s. 4d. 2s. 2d. Elsewhere... ...10s. 0d. 5s. 0d. 2s. 6d.

### LIGHTING-UP TIMES.

London	9.37	Edinburgh	10.16
Newcastle	10.3	Liverpool	
Birmingham	9.50	Bristol	9.47
Di	hlin	10.18	

For Dublin the local mean time (one hour after sunset) is given. If Green-wich time is required 20 minutes must be added.

MOON .- No moonlight this week-end.

# CAN WE PARE DOWN OUR MILEAGE?

A Thoughtful Article for Those Who Indulge in Limited Motoring for Necessary Recreation. Holidays near Home and Some Suggestions.

By Our Touring Editor.

TTHE motorist is being overwhelmed with advice relative to making his petrol go further and his

L tyres last longer; hints that are very pertinent just now. But it seems to me that, without, of course, paying the least attention to the admonitions of a certain committee which has made itself a laughing stock by its extraordinary failure to grasp the realities of things, it is worth approaching the question from the other end and inquiring whether we could not only do a given number of miles on a less quantity of petrol, but could manage with less miles too. In other words, could we pare down our mileage

without giving up the purpose for which we motor? Those travelling on business, having a definite pro-gramme to get through, will not find it possible to accomplish much in this direction. But where we sally forth intent only on limited and

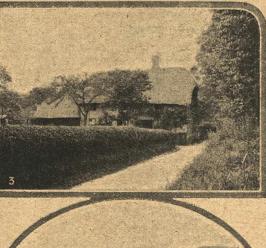
but where we sany forth intent only on limited and necessary recreation a reduction in mileage could commonly be compassed without defeating the ends we have in view. When we fix up to run down to Bournemouth, to go and see Haddon Hall, to spend a holiday in the Lakes, and so on, none of those chings is really essential in the way that it is essential for the business man to touch at certain points Our main and only ultimate nurpose is health and relaxamain and only ultimate purpose is health and relaxa-tion by means of road travel, and it would be idle to deny that that purpose could be as well served by selecting some less remote objective, whatever pleasure we might derive from carrying out a cherished plan. Any such sacrifice would be, after all, of a very trivial nature, and if the making of it would advantage the nation in its endeavour to keep its imports down, no one would grudge it, even without having regard to the fact that he is thereby advantaging himself to a considerably greater extent by keeping money in his pocket.

It needs no demonstrating that if the mileage for a day trip, a week-end jaunt, or a tour can be cut down to half of what one has been accustomed to make it in ordinary times, the economy must be very substantial in petrol alone, not to mention oil, grease, tyres, and wear and tear generally. The idea, in fact, has the great merit of offering a way of effecting a sensational saving at one blow, a method which has much more attraction for the average individual than accomplishing the same thing by the bothersome process of a number of small bites.

"All right," says the motorist, resignedly, "but it is good-bye to the pleasures of exploring new ground, henceforth I browse among familiar pastures." To which the proper reply is "Rubbish," or a politer form of words to the same effect.

My meaning is that very few of us have ever scoured the country within our reach so methodically scoured the country within our reach so methodically and completely as to have left no picturesque patches unvisited, no pretty roads untraversed. In proof of this let me ask Londoners, and Midlanders, and Bristolians and others whom it may concern whether some of the following delectable localities are not still, for them, wrapped in the glamour that always envelops terra incognita. There is that bit of downland at the back of







MAY-TIME PLEASURES. Dorchester and the wild heaths near by, all part of the Hardy Country; there is the district south of Glastonbury, a tract of miniature hill ranges centering about Keinton Mandeville, the village where Henry Irving was born; there is Cranborne Chase and the whole countryside away up to Frome, comprising such beauty spots as Stourton, Longleat, Wardour Park, and the Larmer Grounds; there is the really charming district between Devizes and Basingstoke; and there is mid-west Hampshire, i.e., west and north-west of Winchester; all these within a by no means wide area of England.

### Out-of-the-way Corners.

And what about the South Downs? Most people would find plenty of out-of-the-way corners there into which they had never previously set foot. Going northward, there is that quiet southern tail of the Cotswolds all in the hinterland behind the drab Gloucester-Bristol road, a quite fascinating bit of country; there is that particularly unsophisticated district south-west of Banbury, as well as the picturesque tract between Banbury and Northampton, with its old-world villages, one of which, Sulgrave, has become famous. Further west are the Shakespeare villages of undying interest, and the rich lands round Evesham; while more west still is the very varied country between Hereford and Brecon. Then, again, who realizes what a lovely strip of country borders the Severn between Worcester and Shrewsbury, or what a good base the quiet old city of Lichfield makes, with Cannock Chase and Needwood Forest at its gates. What might easily be made an almost interminable list may be brought to a conclusion with reference to the glorious heaths round about Thetford, and the pretty and eminently unhackneyed bit of country between Stamford and Sleaford, unspoiled in spite of its near proximity to the Great North Road with its heavy traffic.

Now I venture to say that the man who, because of the war and the duties it involves, gives up, or rather postpones until happier times, his project for a holiday in Wales. or Cornwall, or the Highlands, and, instead, spends his time in one of the above districts, is not deserving of the slightest commiseration. B10 Acting on this plan and choosing a district comparatively near at hand, a considerable amount of petrol, etc., will be saved on the actual journey down and back, and in the district itself, the country being more compact and the distances shorter, a corresponding saving could undoubtedly be set against each day's account.

This idea for economizing through cutting down one's mileage is, naturally, equally capable of application to day runs from home. Instead of running out 60, 80, or 100 miles, let the map be searched for overlooked bits of ground and unexplored lengths of byway to be reached by turning off, say, 25 or 35 miles down the road. There are sure to be some, in pretty nearly every direction, for it is really astonishing how the ordinary driver may fail to light on things to which his attention has never been called. It will be found greatly to contribute to a low mileage, without impairing the enjoyability of a day with the motor, if a point is made of cultivating those fruits of a motor outing which involve stopping the engine for a few hours. Instead of driving all day, with just short stops for the inspection of one or two objects of note, as we often do, we could well contrive to introduce longer breaks.

### Rambles and Picnics.

The multifarious objects of note with which the countryside abounds are rarely worked for all they are worth, and more time could usually be spent on them with a resulting increase rather than a decrease in our interest. The idea of short walks, which I commended back in the winter, will bear mention again in the present connection, for while we are wandering through parks, or strolling along woodland paths we are saving petrol, and we cannot be said to be exactly martyring ourselves in the process. It is a good plan, too, when picnicking, to spend a little effort on finding a pretty spot, since the more attractive the surroundings the longer we shall be tempted to linger in them.

In ways like these a substantial part of the day could be consumed, and one can of the precious fluid at the least be saved.

### 29тн Млу, 1916.

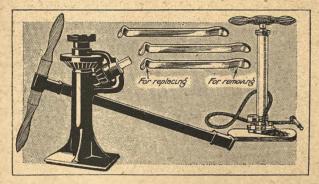
# THE CORRECT WAY TO CHANGE A TYRE.

Why a Garage Hand Makes Light of an Operation That is Often Beyond the Skill of an Ordinary Driver.

O NE of the troubles consequent on motoring is that in connection with tyres, and the large majority of private owners fear tyre trouble to an unnecessary extent. The removal of a punctured tube and its replacement by a sound one appears to them a very difficult and unpleasant task. The reason generally is that they do not know the correct method of setting about it, or that they do not take the trouble to acquaint themselves with certain labour-saving devices.

One has only to watch an expert fitter, such as is employed by the big tyre companies. changing four complete tyres and tubes on a light car to realize how easy it can be when the correct methods are employed.

easy it can be when the correct methods are employed. The changing of the cover is another point which also presents considerable difficulty; but it is really very simple if the correct sequence of operations is



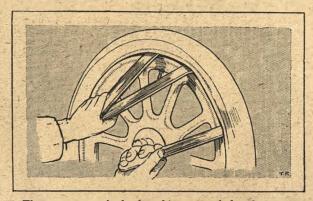
The tool-kit necessary for removing and replacing a tyre. It consists of a jack, tyre levers and a pump. Note the ends of the tyre levers and their use.

followed. Let us assume that it is desired to change a plain tyre on one of the rear wheels which has given good service during the summer for a studded one which will be more suitable for the wet and greasy roads of winter.

The implements necessary consist of a jack, a pump and three long tyre levers, and in connection with the latter 18 ins. is the best length to use.

latter 18 ins. is the best length to use. The method adopted for removing the cover will vary according as the tyre is fitted with security bolts or not. In the former case one bead of the cover will first have to be removed from the rim. To do this, a tyre lever must be carefully worked between the bead and the rim, on one side of a security bolt which has previously been loosened. On the other side of the security bolt a second lever should also be inserted and the free ends of the two levers should be crossed and held in the palm of the left hand. The third lever should then be carefully worked between the bead and the rim about 6 ins. further along, and when the three levers are carefully inserted they should be pressed down simultaneously. It will generally be found that a large portion of the tread will be lifted over the rim, and the rest of the cover, if the light car and cyclecar size, can then be pulled over by means of the fingers.

In order to remove the cover, it is not necessary to remove the security bolts. Two tyre levers should be inserted from the inside between the remaining bead and the rim, so that their ends are placed across the two clinches. One lever should be arranged on each side of a security bolt, and by raising these and pulling down the bolt with the free hand the cover can be lifted over the head of the security bolt. The same operation is repeated right round the tyre, then the

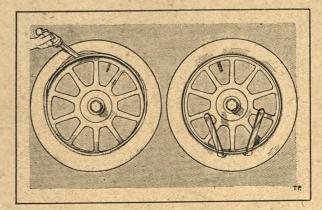


The correct method of making use of the three tyre levers when removing an outer cover.

cover will come away quite easily. There is no need to remove the tube from the cover while this operation is being performed.

In order to fit the fresh cover, the tube should be removed from the old cover, closely examined for creases, etc., lightly rubbed with French chalk, and then inserted in the new cover; it should be slightly inflated so that it assumes its natural form, and then the directions given for removing of the cover should be followed only in the reverse order. By far the greater number of cyclecar and light car

By far the greater number of cyclecar and light car tyres, however, are not fitted with security bolts. Either bolt-valves are used, or the friction between the bead and the rim when the tyre is fully inflated is relied upon to prevent creeping. In this case the removing of the cover is extremely easy. The tyre should be deflated after being jacked up, and the outside bead be started from the rim by inserting three levers as previously described. The rest of the outer bead is then pulled out by means of the fingers, and by placing one lever through from the inside



The procedure when an outer cover is replaced. The tube is inside the tyre at this stage. The flat end of the tyre levers help to get the cover on to the rim, and the hooked ends facilitate the final stage.

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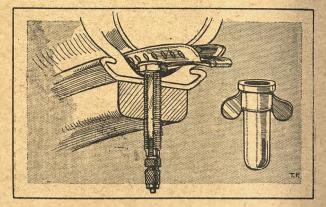
### CORRECT WAY TO CHANGE A TYRE (contd.).

under the remaining bead and over the two clinches of the rim at the point opposite the valve, the whole cover can be swept off.

The tube should be removed from the old cover and placed in the new one, and then the wheel should be turned so that the valve hole is at the uppermost part. The valve should be inserted and the cover should then be forced on as far as possible, both beads being inserted simultaneously. As the bottom of the wheel is approached, if it is found that the cover will not go on easily, then two tyre levers must be inserted and swung over simultaneously. The course usually adopted by a private owner is to fit the inside bead first, then insert the tube, and then the outside bead; but a far better and quicker way is to fit both beads at once: there is then little possibility of nipping the tube, and the cover can be fitted much more quickly.

For all tyres up to 65 mm. there is no need whatever to have bolt-valves or security bolts if the tyre is a good fit on the rim; but for all sizes above this we strongly urge that a bolt-valve should be fitted. There is no need to fit security bolts, as they are generally more trouble than they are worth. A good bolt-valve, such as can be obtained from the large tyre companies, is well worth its small cost.

The principle of the bolt-valve is simple. There is a thin metal shoe, somewhat after the fashion of a security bolt, which is fixed on to the valve stem of the inner tube. When the tube is in position and the stem projects through the rim, the dust cap, which is provided with a wing nut in this case, is screwed up



A type of bolt-valve which is now used extensively in the place of a number of security bolts.

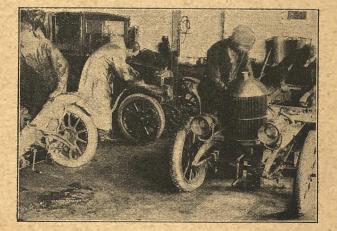
as tight as possible. The beads are pressed firmly into the rim, owing to the metal shoe between them, thus gripping them and preventing creeping.

We have heard from several experts that it takes no longer to change the cover and tube on an ordinary rim than it does for the average private owner to change a detachable wheel. While this is quite possible, of course, detachable wheels are simpler for the private owner; but if, in the first place, he does not wish to go to the expense of having new wheels and some similar accessories fitted, a little time spent in the practice of changing tyres will be well repaid by a considerable saving of time on the road in cases of punctures or bursts.

# WHERE TO HIRE A LIGHT CAR. A New Enterprise That Will Interest Officers.

SO many motorists have given up their cars that facilities for hiring a light car for a short period have been in urgent demand for some time past. This is especially the case with officers returning from France on short leave. Messrs. A. P. Rey, of Euston Road, London, N.W., are now making a special feature of light cars for hire on a large scale. They have no fewer than 60 available for this purpose.

Most popular makes are represented, including Calcotts, Standards, Hillmans, Morris-Oxfords and Singers, and they can be hired at a standard rate of £2 a day, £3 for a week-end (Saturday noon to Monday



One corner of the overhauling department of Messrs. A. P. Rey's hiring business.

morning), and £7 10s. for a week. The fees must be paid in advance, together with a deposit of £20.

The cars are mostly 1915 and 1916 models, with a few of earlier date. They are kept in first-class condition and frequently overhauled. For this purpose there is a very large and complete workshop above the showrooms. The overhaul includes taking down everything, from the engine to the back axle, in order to ensure hirers against roadside stoppages and breakdowns.

Each hirer is given an explanation of the controls in a quiet side turning, and can then drive round the square. If he shows himself proficient to handle a car, he can drive it away without further delay. If, however, he fails to drive the car in an efficient manner, he can have lessons at the rate of 5s. an hour until he is considered capable of handling the car.

Each car leaves the showrooms in a thoroughly sound condition and in better "tune" than a great many privately-owned light cars, so that there is no doubt as to its reliability.

This will supply information for which we are frequently asked.

### Second-hand Light Cars.

The Service Co., of High Holborn, have a number of second-hand light cars in stock, the most striking of which is a 1915 four-cylinder 10 h.p. Enfield threeseater. The body is boat-shaped cut away to the rear, and the seats are arranged in clover leaf form. A dynamo lighting set of five lamps with switchboard is fitted. The price is £190. A 1914 A.-C. light car with a full equipment of three oil lamps and acetylene headlamps is offered for £160.

# HOW A LIGHT CAR ASSISTS A COUNTRY PARSON. Motoring for a Curate with £200 a Year.

### By the Rev. W. A. Haslam.

AM one of the so-called idle rich, i.e., my yearly salary is that of the usual curate of the Church of England: in other words, I own a small car; but it does not matter whether it is an Auto-Wheel or Rolls-Royce, it consumes petrol. Therefore, apart from what the word "rich" really means, I must be, *ipso facto*, one of the idle variety. However, as the majority of readers of THE LIGHT CAR AND CYCLECAR are practical men, perhaps a few words on the running of a light car by a member of a profession one seldom sees writing on this subject may be of interest.

First of all, it can be done. I mean by that that motoring is possible for the man whose income is in the neighbourhood of £200 per annum. For 13 or 14 years now I have had a motor. True, I began at the beginning with second-hand motorcycles costing £20, but therein lies the secret. There were not garages in every village in the early days, and one had to know the difference between a sparking plug and an exhaust box in those days if home was ever to hove in sight again, and though one would never dream of fastening on the carburetter with a bootlace and using the rubber lamp piping as a substitute for the petrol pipe now, yet more wonderful things than that happened in those days. But if motoring is to be economical, the owner must still rely upon himself.

### Know thy Engine as Thineself.

To this end, the great thing is to have a certain amount of confidence. It is one thing to sit in the driver's seat with the engine running merrily and feeling you are master; but is is quite another thing when the engine is stopped and all the "coffee grinding" in the world will not induce it to speak. There is considerable doubt as to who is the master then. Confidence in oneself as master under most circumstances can be obtained by (1) understanding the rudimentary principles and functions of the engine, magneto and carburetter; (2) thoroughly knowing the "hum" of the engine under different conditions, consequently being able to detect at once different sounds and, by a little manipulation of the different controls, ascertain their origin before worse trouble happens; (3) always carrying a serviceable kit of tools and a fair supply of spare parts. Then there is, from the economical point of view, a

Then there is, from the economical point of view, a great difference between using your car and making use of it. Even light car motoring will not be economical if you use your car for every trivial little journey where, except for convenience. the tram, bus or train is, in the long run, cheaper. Making use of it means using it where other means of conveyance either do not take you or are of no use. It is just here that the line between merely pleasure motoring and motoring for some definite object can be drawn.

### The Parson's Busy Season.

In my case, just as every branch of business life has its busy season, so we parsons—or most of us—have ours, and that is Lent. During Lent this year I was preaching away from home on the average four times in every week, journeys ranging from 10 to 12 miles, and, in spite of gales, telegraph poles and trees all over the road, to say nothing of the floods in the Thames Valley where I live, not once did I take the train, and only once, through unavoidable delay, was I five minutes late. Owing to engagements at home, in every case it meant running to an 18 m.p.h. average at the least to fulfil my appointments. Besides this side of my work, I have to give several

Besides this side of my work, I have to give several lectures at different schools and colleges on the south coast and elsewhere. In these cases I could take the train down, but the lectures being in the evening, there is no train home the same night, which would mean that, besides the cost of railway travelling, there is the cost of putting up, and the two or three hours taken out of the following morning in getting back. Here the light car comes into use, and though it means the early hours of the morning before I get home, not only is money saved by motoring, but I am ready for the usual morning's work as well, which I should not be if I had to depend upon the train. It is in cases like this that the importance of having a certain amount of confidence in oneself comes in: if anything goes wrong, there is no time on the way to hang about or get out maps to see where the nearest village or town with a garage might be. If you are



Two G.W.K. owners meet and compare notes, while a third passes as the photograph was taken. A scene on the Brighton road near Handcross recently.

### LIGHT CAR FOR A CURATE (contd.).

running to an engagement, it is a case of "up and doing" at once, especially on the way home, with everything shut up in the middle of the night. It is confidence that makes motoring pleasurable.

Then, with regard to leisure. When I get three or four days off, as I generally do after Easter, it is the light car that enables me to enjoy life. I start in the early hours of the morning and go straight through to Devon or Cornwall, where I expect to be in time for tea. Recently I had one of my best runs. During my spare time the week before, with the help of a friend from the A.-C. works, I thoroughly overhauled my 12 h.p. A.-C. Every single thing was taken down and cleaned in readiness for an early start on the following Monday morning. With the possibility of reliability trials coming on when the Kaiser has finished upsetting Europe, I decided to have a schedule run down to Lynmouth, in Devon, for the first day, and worked out the following 19 m.p.h. average :--

THE PARTY OF		15	Actual run-
	Schedule	. Miles	s ning time.
Thames Ditton	dep. 5.	0 a.m. —	5.35
Reading	pass 6.	50 35	7.5
*Marlborough	arr. 8.	10 72	8.32
Fully mentioners to	dep. 9.	10 —	9.45
Frome	pass 11.	35 107	11.18
†Glastonbury	arr. 12.	45 129	12.52
	dep. 1.	45	1.45
Bridgwater	pass 2.	35 146	2.30
a the state that a		P	etrol 2.45
Porlock	pass 4.	$20 \dots 179$	4.20
Lynmouth	arr. 5.	0 191	5.18
*Breakfast.	A COM	†Lu	nch.

The only time we really lost time was on Porlock, and that was owing to striking a gully round the second corner at a fair speed, when the car seemed to take a jump, and we got out to see if anything was broken. Countisbury Hill was very bad at the bottom and needed care, but, taking all things into consideration, the little car put up an exceptionally good average, and it is just as well: in the early hours most of the police were still asleep. The following afternoon we sampled the "new"! road to Simons-bath. 1 refer anyone else to the R.A.C. account of this road and hill as being quite accurate. At the top we turned to the left and began to descend to Brendon. The run along the valley at the bottom is well worth all the ascending and descending. Proceeding past the Doone Valley to Oare, quite a respectable road runs up from the village to the Porlock-Lynmouth road about three miles from the top of Countisbury. On the Wednesday we took the new road to Lynton and then on to Barnstaple, Launceston, Liskeard, Looe to Polperro, the prettiest fishing willage in Cornwall, which has a very "moderate" hotel (Colling's Tourist Hotel), with stabling for motors. We found no hills to trouble man nor beast in that neighbourhood, so, on the Friday, came back via the Dartmoor route to Exeter and on to Lyme Regis, running in home again the following day—a delightful trip of 575 miles. The only attention the car required was fitting the spare wheel once. The petrol consumption worked out at over 35 m.p.g. and the lubricating oil at 1000 m.p.g. Thus, as a means of conveyance with every comfort into the heart of moorland districts, no one can say that the light car signifies extravagant luxury in the common meaning of the term to-day.



Waltham Cross and the famous "Four Swans" Inn, dating to 1260 A.D. The light car is a 1916 Singer. B14

# VIBRATION AND ITS EFFECTS.

## Work that Wastes Power and Disintegrates the Material.

F vibration exists on a car or other machine, nothing is more certain than that it will exact a penalty in additional expense and comfort. Generally speaking, the light car owner is let down easily in this respect if he is prepared to take the necessary pre-cautions for its prevention. The expense may arise through the waste of power-or rapid ageing of the materials. This ageing or crystallization is often pro-duced when a piece of iron or steel is broken by the familiar method of bending it backwards and forwards through a fairly big angle, which makes the process quicker. As an instance of the enormous amount of power that vibration can absorb, I remember seeing the photographs of an 80 lb. rail showing corrugated marks caused by the out-of-bal-ance of one of the locomotive wheels.

### A Fan Blade Test.

To test some electric lamps under approximately road conditions it was necessary to produce an equiva-lent to road vibrations. The lamps were hung from a board, one end of which was pivoted and the other suspended by a spring. By placing a blob of solder on the tip of a fan blade (one of four), and fastening the fan on the top side of the board, the vibrations caused by the out-of-balance so produced were trans-mitted to the lamps. The loss in efficiency of the fan was immediately noticed, and the increase of the power necessary was far more than that required to move the extra weight of the solder. In this case the vibrations were light and numerous, the presence of the spring making the vibrations more pronounced. Although the power consumed by the vibrations of the fan was far smaller than it was in the other case, the percentage loss was considerably greater.

We expect a certain amount of vibration, but when it begins to become excessive it behoves us to examine the cause. One of the means adopted to discover the "high" points on a niece of mechanism "high" points on a piece of mechanism subject to vibration is to render it semi-rigid by placing springs between the nuts of the holding bolts and the apparatus itself. This accentuates the vibrations and makes the "high" point more pronounced (this is a very useful dodge in cases where the vibrations are most prominent at very high speeds, and it is not advisable to run the machine up so high while balancing). From this it will be quite clear that we must avoid loose bolts, nuts, spring in the wrong place, and anything that will serve to augment the vibration. There is an idea prevalent that if the vibration of the engine is so damped out that the passengers do not feel it, all that is necessary has been done. This is a mis-take, for although the discomfort arising out of the continual dither, and even the noise, may be missing, we have only nullified the discomfort, leaving the expenses running up like the meter on a taxi

A spring is so often used to damp out vibration that a word here may be useful to show where it should be avoided. Weight for weight a bar of metal loses tre-mendously in strength if it is bent from the straight, and, therefore, a crank must have a considerable mass to give it the strength to stand up to its work. To keep this mass down we must support it at every possible point; this is the reason some manufac-turers prefer three bearings for a four-crank shaft. If, through uneven distribution of this mass of metal in the crankshaft, it becomes out-of-balance, and only two bearings are used, there is a great probability that the shaft will be sprung. This may not actually endanger the shaft, but it will virtually put the shaft more out-of-balance, and thus increase the vibration.

To illustrate the loss of power we will revert to the incident of the locomotive. When the heavy side of the wheel was farthest from the ground, it would tend to lift the locomotive, and when it was nearest the ground it would tend to drive it into the ground. To assist the out-of-balance load or weight there would be a falling weight equal to that taken off the metals. The returning weight equal to that taken on the metals. The returning weight would be due to gravity, which has a definite factor governing the time taken for a body to travel from one point to another. If the revolutions of our locomotive wheel are low, the weight will have fallen before the out-of-balance por-tion of the wheel will have had time to reach the point nearest the ground, consequently there will be two blows instead of one. Suppose it is possible for the locomotive speed to rise to a point when the out-of-balance portion of the wheel reaches the point of-balance portion of the wheel reaches the point nearest the ground at the same time as the falling weight, then we not only have an increased blow due to the increase in speed, but we have the destructive effects of two blows in one. This is analogous to the vibration period we sometimes read of in connection with light car and other engines. If the locomotive could be speeded up still more, it would pass through this period, as with a light car engine this period, as with a light car engine.

### Effect of Light, Continuous Blows.

Because the heavy vibrations, more like blows, are the most dangerous, it is unwise to neglect those light, continuous vibrations if they can be stopped, especially if they have a high periodicity. In certain classes of electrical work external vibrations, or vibrations of the lower order, are practically non-existent, but there is a good deal of the faster and lighter type, and it requires no small amount of ingenuity to obviate the bad effects. There is one particular type of vibration which should be eliminated as soon as possible ; it is something akin to the periodic mement of moving machinery, and is best characterized as a "shudder," but there is this difference—it is more Truss rods on back axles are liable to it, prolocal. bably due to the release of the strains and where the truss rod merely passes under the differential casing without any provision being made to keep it up to its work. If the truss rod is so constructed that a small increase or decrease in its length causes a very heavy trussing strain to be put on or taken off the back axle, there is the danger of this "shudder" occurring. It is practically certain these rapid reversals of heavy strains, to say nothing of the actual blow which takes place, will sooner or later create a repair bill. There is a whole host of parts each vibrating, or

waiting ready to commence vibrating, as soon as the conditions arise. We understand that every vibration has a swing backwards and forwards, and that twice in every cycle of operations the mass of material is stopped and started again. The starting and stop-ping imply reversal of the strains, which are continually tending to alter the position of the molecules of the material. Thus work is done on the material, useless work which wastes power, and often the dis-integration of the material follows. Fortunately, the metals which are most concerned are capable of being treated to withstand such vibration as is unavoidable, and not the least important job in the manufacture of a light car is the selection of the proper materials and their proper disposition over the car. But there are limits to the quality of the materials ; we cannot combine flexibility and rigidity. The best we can do is to make a compromise. Vibration on a spring may not matter, but on cast-iron it is important. W.F.A.

B15

29тн. Мля, 1916.

# MOUNTAINEERING Honister Pass Climber Side for the First T

**T**WO A.-C. light cars made an attack upon the famous Honister Pass from the Buttermere side the week-end before last, and succeeded in climbing the most notorious hill in the Lake District.

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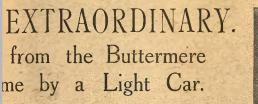
We believe it is the first time that a light car has climbed this hill. It is one of the worst in the whole country, having a gradient of about 1 in 3 and a surface of loose stones, upon which it is extremely difficult to get a tyre grip. The hill is practically impassable for a heavy car, and for a light car it demands a tremendous reserve of power for the steepest gradient after a very long and trying climb.

The ascents were made by Mr. A. Noble, the works manager of Messrs. Auto-Carriers (1911), Ltd., and Mr. K. E. Don, a private owner. Mr. Noble's car had several experimental features fitted and an A.-C. engine.

The short, sharp rise between Kendal and Windermere, known as Shaw's Brow, and the equally businesslike pass of Dunmail Raise, both of which usually demand bottom gear, were toyed with by the A.-C.s on second gear, which augured well for the real mountaineering, which began between Keswick and Buttermere, via Newlands.

At Keskadale a long stretch of 1 in 4 was encountered, the humming of the engine bringing out the occupants of an adjacent farmhouse, astounded to see motors on this hill.

This was followed by the long and trying ascent of Buttermere Hause, only the last steep and stony part calling for first speed, and then began the ascent of the famous Honister Pass from the Buttermere side. This is never attempted by motorists, except from the oppo-B16 The accompanying illustrations give a vivid idea of the difficulties of the mountaineers, but unfortunately do not adequately portray the gradients. (1) Mr. Don's A -C. topping Buttermere Hause. (2) On one of the gradients conquered, 1290 ft. above sea level. (3) Honister Pass, just before the last steep bit is approached.



Mr. Noble and Mr. Don executing some remarkable skids. Mr. Don's passenger, after a most alarming side-slip on the very edge of a sheer drop of 700 ft., with a mountain torrent at the bottom, expressed an emphatic cpinion that he would only venture again on foot. A number of stops for photographic purposes were made, which increased the difficulties of the climb. The keeper of the toll gate at the end of the pass was amazed at the appearance of the two

The keeper of the ton gate at the end of the pass was amazed at the appearance of the two cars, knowing that they had not come the other way, while at Keswick, on the return journey, the locals were equally astounded to hear that the expedition, which they had foredoomed to failure, was successfully accomplished with two 10 h.p. cars. It was indeed a wonderful performance, and one of the most remarkable facts is that throughout the whole of the week-end, in spite of many miles of exceptionally bad roads, the Avon tyres fitted to both cars gave no trouble, were very little worn, and did not even sustain a puncture.

site side, which is much easier, while in the summer time coaches come down the hill with skid pads on, utterly destroying the road surface. The first portion is quite easy, but the road quickly becomes steeper and more difficult to climb, until the last quarter of a mile is reached, with a gradient of 1 in 3 in places and a surface of loose stones several inches deep. The ascent was a thrilling spectacle, both

Other steep hills, such as Hard Knott and Wrynose passes, in the Lake District, were also climbed, some photographs of which we may be publishing next week, but the ascent of Honister Pass was the outstanding feature.

Buttermere. (5) Coming up the 1 in 3 portion of Honister Pass. (6) Mr. Noble starting on the last 1 in 3 portion of the ascent of Honister. Both cars carried passengers in the ascents. The roughness of the surface of the roads, inches deep in loose stones, is well shown.

(4) Mr. Don speeding up

# THE CALL OF THE ROAD. IN THE BY-WAYS WITH A

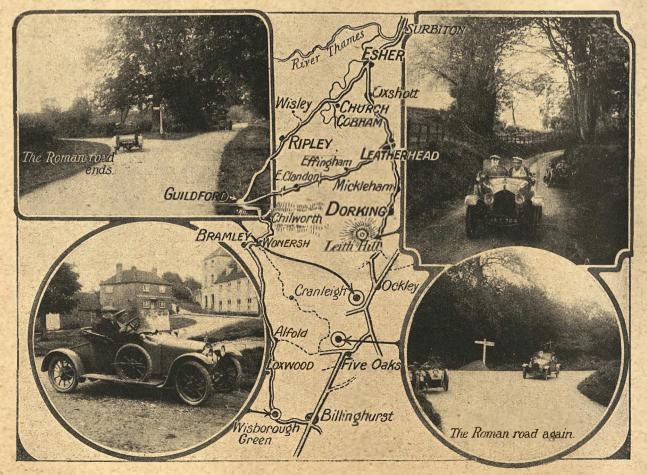
W HILE we grumble with some reason at the neglected condition of the main roads, few seem to realize that elsewhere, except round about military encampments, the surface is quite passable and often better than that. The motorist is as egregious as his species, and his most strongly developed habit is that of collecting in crowds. The more popular a main road may be the more it seems to appeal to him as the ideal locality for motoring, and so it comes about that while there is hardly a motorist to be seen in any other part of the country at week-ends, unless on business bent, along the Portsmouth road as far as Guildford, given any fine Sunday, there is always a stream of passing cars.

Some people seem to have a poor idea of getting the utmost value out of 2s. 10d. To encounter other cars and with difficulty to park one's vehicle in an already crowded enclosure seems to be the beginning and the end of the average motorist's aspirations. This display of motoring on one particular road is a great mistake in these times. The Chancellor of the Exchequer might derive therefrom an erroneous view of the popularity of motoring, and devise fresh and worse schemes for taxing motorists as a whole. All these people (many in the trade) who go down the road merely to display their latest acquisition, or to take wounded soldiers for an outing, could spend the day far more profitably by turning aside and explor-

# THE JOTTINGS OF JOHN GILPIN, JNR. THREE-SPEED STELLITE.

ing the little-known lanes that lie to the south of it. One recent week-end, I took a trip that would bring a touch of heaven to any wounded man, sick of the drudgery of hospital life, where many spend three or four weary months. The lanes were a riot of colour, for May is a gorgeous month if you know where to look for its charms. The day was one of sunlight and shadow, giving a continually varying aspect to the same view, and the little Stellite that I had borrowed for the occasion was nowhere more at home than running quietly and without fuss over the many ups and downs of the Surrey hills.

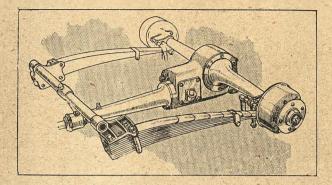
The many ups and downs of the surrey mus. We left the main road, with its motley and incessant traffic, at Esher and plunged at once into the country, over Oxshott Common, bright with the blazing yellow gorse. The run from Leatherhead, through the Vale of Mickleham and under the shadow of Box Hill, to Dorking is well known, but even on this stretch there were few cars. It was after leaving the latter place that we saw the last of the motorists for many miles. We took the Leith Hill road at the end of the ten-mile limit, and presently negotiated Boar Hill. As the sandy road rose in front, no fewer than three high-powered cars were observed in difficulties on the 1 in 8. The first we managed to pass by scraping the hedges, for the lane is narrow, but the second brought us to a standstill on the very steepest portion. Now a restart under



### 29тн Мау, 1916.

### THE CALL OF THE ROAD (contd.).

such conditions is a difficult matter, but the driver of the big car managed it finally by disgorging his passengers, and slowly crawled up in a cloud of smoke, the little Stellite gamely and uncomplainingly following without the slightest fuss, until an opening enabled us to get by. When we had left the third, with his passengers assisting the propulsive

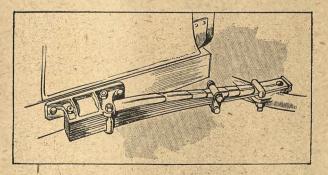


The back axle and gearbox unit, and long quarter elliptic springing.

efforts of the motor, we felt that a light car has its advantages in more things than petrol consumption.

advantages in more things than petrol consumption. From the top there are dozens of inviting recesses for picnicking. Through the trees, glimpses were caught of a green valley and the shady slopes of the opposite hills thickly carpeted with bluebells. The quaint little village of Coldharbour, nestling under the steep brow of Leith Hill, was the next attraction. After a stay here, we turned left towards Ockley, through an avenue of gnarled and many-limbed beeches, past rows of chestnuts, the blossoms from which carpeted the road, looking trim and neat like so many model trees without which no "Noah's Ark" outfit is complete, skirting a plantation of rhododendrons, just breaking into flower, until we struck the old Roman road of Stane Street.

This is one of the finest stretches of good road anywhere in the country, delightfully shaded, passing through old-fashioned Ockley, with its typical village green. A mile or so beyond the village the Roman road becomes lost in a maze of lanes of bad surface, but by following the route shown on the

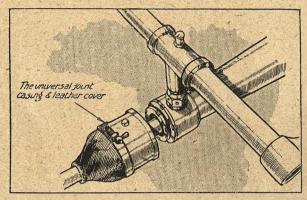


The long quarter elliptic front springing.

sketch map it is rejoined again in about three miles, and then continues to Pulborough.

At Billingshurst we turned off to the typical Sussex village of Wisborough Green, and manœuvred about in various directions until the front cover picture, which appears this week, was obtained. The suspicions of the local inhabitants were aroused, how-- ever, and after overhearing an observation: "Be they Jarman spies, Jarge?" we deemed it wise to depart. It's a horrible war.

From here onwards is the finest section of the trip, by Loxwood, Alfold, Bramley and Chilworth especially the latter section. Chilworth is a pretty spot, with one of the tributaries of the Wey running alongside the road, and under the shadow of the pinecrowned eminence of St. Martha's Hill. The little stream feeds, or is fed from, numerous old "hammer" ponds hereabouts, relics of an iron smelting industry of several centuries ago. Just after passing a large one on the left, the road rises sharply and dips down again, and here, if the next stage is to be covered, a sharp turn to left is taken, up a steep, narrow, rough lane, grass-grown in places, through a tunnel of foliage. On left rises St. Martha's Hill, above a gorse, bracken and heather-clad common (another picnic suggestion), and the adventurous may



The rear universal joint and suspension of the propeller shaft casing, which is free to move with the back axle.

climb to the summit, view its Norman church standing four-square to the winds, and delight in the finest panorama in all Surrey. Then follows a tortuous, steep, rough bit, which the Stellite made light of, and eventually, after a run under Merrow Downs the Guildford-Leatherhead road was struck just or the outskirts of the former town.

### Impressions of the Stellite.

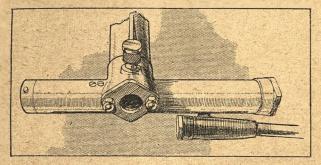
The trip brought out the good points in the Stel lite. It occupied the best part of a day, which meant many stops and restarts, and much slow running. It was over roads that on the whole were good, most of the little-used by-ways being far superior to the main roads in these times, but there were bad enough stretches to test the springing of any car. Awkward turns there were, too, to be negotiated, in which either the handiness of any vehicle or the temper of the driver would be sorely tried; and sharp hills with surprising ends that call for good brakes and sometimes a flexible engine.

Now the Stellite is another car of the type that I believe the ordinary user prefers. It has no great turn of speed, but it will run quietly and flexibly on top gear and calls for no effort on the part of the driver, or any particular skill in driving. Its mechanical features are exceedingly well thought out, and there is a general soundness of design such as one would expect naturally of a product of the famous home of the Wolseley car. This was a three-speed model, with an experimental body of streamline form, and except for possibly minor alterations, is in essentials the Stellite that will be marketed after the war, although this was just a garage car.

although this was just a garage car. The distinctive features of the Stellite are its engine, with overhead inlet valves, the suspension, BL9

### THE CALL OF THE ROAD (contd.).

and the under-worm-driven back axle and gearbox combined. The engine is a comparatively small one, of 62 mm. bcre by 89 mm. stroke, giving a cubical capacity of 1074 c.c. The overhead inlet valves operate in exceptionally large guides, thus greatly reducing the wear inevitable in this type. They are



How the rack and pinion steering is covered in instead of being left exposed to dust, as is usual practice when this system is adopted.

enclosed in two detachable pressed steel covers, provided with lubricators, and thus are not only kept properly lubricated and free from dust, which is the main cause of rapid wear, but are adequately silenced. The normal engine speed is 1600 r.p.m., which accounts for its flexibility on top gear, which, tested by the Stewart speedometer fitted, ranged prom 6 or 7 m.p.h. to a maximum of 43 m.p.h. It is thus seen that it is a comparatively slow-running power unit, and, therefore, does not require the careful handling of a car with a "revving" engine. Detachable cylinder heads are a feature, and one that was endorsed in the specification of an ideal light car which was described and illustrated in THE LIGHT CAR AND CYCLECAR last March.

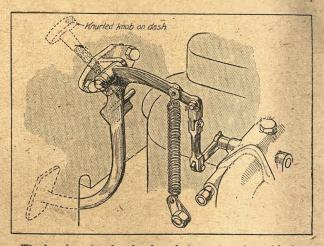
The steering is by rack and pinion, and the difficulty of completely enclosing it, and therefore protecting it from wear, has been overcome, as shown in one of the illustrations. The steering is very light, although not geared down to any great extent.

The suspension is a particularly good feature, the long quarter-elliptic springs damping out the vibration of the worst potholes in a most effective manner. The car holds the road exceedingly well, and the method of suspension, which is illustrated, enables the propeller shaft to move up and down with the back axle, the casing being supported by a tubular crossmember, provided with a lubricator, thus dispensing with separate radius rods.

with separate radius rods. The bodywork is substantial, the seats roomy and comfortable, with a dickey seat that folds up into a capacious tool locker. The hand brake works in the reverse direction to usual practice, being pushed, and not pulled, on, which I did not find a disadvantage.

The price of this car before the war—none are being made now—was in the neighbourhood of  $\pounds$ 170 (for a three-speed model), and presumably this will be the price after the war.

The car I tried had seen very considerable service.



The hand setting for the throttle in conjunction with the accelerator pedal. The throttle valve is placed in the inlet casting.

and its condition, especially the silence of the back axle, its smooth running and flexibility, were points that illustrate the value of Wolseley thoroughness. It is produced by the Electric and Ordnance Accessories Co., Ltd., of Birmingham, the proprietors of which are Vickers, Ltd., a name that is of as much importance in this country as Krupps in Germany. Good as the Stellite was before the war, it is only natural to expect that the post-bellum model is going to prove one of the most popular light cars in the future. At its old price there was certainly nothing to touch it. JOHN GILPIN, JNR.

The Stellite on the road near Towcester.

The Grafton bounds being exercised. PETRO

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ALL Lightcarists keen on increasing efficiency and reducing cost of upkeep and who is not, these days? should send for the booklet (with an interesting series of diagrams), entitled "Palmers, Petrol and Power." It describes efficiency comparisons between a car fitted with ordinary canvas tyres, and the same car fitted with Britishmade Palmer Cord Tyres. It proves the saving of 10% of Petrol —equivalent to 6d. per tin; it proves

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# AMATEUR MECHANICS.

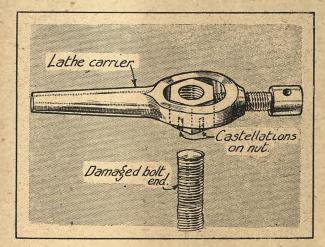
For the owner-driver who likes to potter about in the garage on dull days, turning his attention to constructing little improvements for his car, and who does not want to be at a loss for a means of getting home in the event of a breakdown.

### A Broken Starting Handle.

Light cars are generally fitted with starting handles, which are rather on the light side. Under some conditions, the carrying bracket may be torn loose or some portion of the handle may be fractured. A handy man may often be able to effect a repair by slipping a tubular box spanner over the broken parts, or with a wrenched bracket, by jamming it, temporarily, in place and tying it up with wire. Failing a satisfactory repair, one of the following plans may be tried. (1) Coasting down a hill, if you have been lucky enough to have stopped near the summit, allowing the clutch to engage when a fair speed has been attained. This operation must be performed with circumspection, and the clutch must not be engaged too slowly. On the other hand, if the clutch be let in too suddenly, the car may be stopped with a jerk, and a considerable strain thrown on the engine and transmission. (2) The car may be pushed from behind, or towed from the front, with the too speed engaged, and again, when sufficient speed has been obtained, the clutch may be engaged. (3) The back axle may be jacked up, the top speed engaged, and then the back wheel pulled round.

### **Repairing Damaged Threads.**

With rough usage, the threads on bolts and studs are apt to suffer rather badly, and making good the damage often proves a cause of worry. A skilful mechanic can sometimes make a good job of it with the aid of a file, while running down a die of the correct size will make the thread often as good as new. Neither plan is, however, at times possible to an amateur, and the best idea then is to improvise a die out of a castellated nut of the right size and pitch of

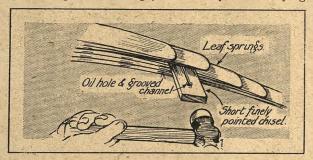


### A method of trueing a damaged bolt thread with an inverted castle-nut.

thread. These nuts are, as a rule, case-hardened, and will last quite a considerable time if they are only used for the purpose of correcting this class of damage and not used for producing new threads. The slotted end of the nut is started first on the damaged bolt end, because the slots allow sufficient clearance while the thread is being reconstructed. A ratchet box-ended spanner comes in very useful in getting the work performed quickly. Another method of holding the nut, while it is being manipulated, is to clamp it on a carrier, such as is used for holding work being turned on the lathe. Needless to say, the work should be liberally supplied with oil to ease the strain on the die. It is worth while to keep handy a set of castellated nuts of the commoner Whitworth pitches for jobs of this kind.

### Spring Lubrication.

If the best results are to be obtained from the springing of the car, it is essential that they should receive regular and systematic attention. It is possible to obtain from a supply shop quite a good selection of tools for separating the leaf constituting the spring, but none of them quite met my requirements, so I set to work and made a tool from an old steel chisel. The angle at the point was filed to a much finer taper, and then the edge was made sharper. As I wanted the tool to be of use for the purpose of lubricating I drilled a small hole about an inch-and-a-half from the point, and then cut a fine groove right to the edge, for the object of carrying



How a steel wedge is used to force apart the leaves of the spring while oil is poured down the slot.

the lubricant. In use, the weight of the car was taken off the spring by jacking up the chassis on that side. The fine point of the wedge was then inserted between two of the leaves of the springs by a blow. When the leaves were sufficiently free, paraffin was first of all squirted down the groove in order to clear away any rust, and it was then followed up by a plentiful supply of good oil, into which a small quantity of graphite had been mixed. Although oil, on the whole, is not quite as satisfactory as grease as a speedy and clean that there should be no reason to shirk the more frequent performance of the operation.

### Attention to Shackle Bolts.

As a car grows older, one of the first things which we notice is that the noise and rattle at the spring ends, when passing over bumpy roads, have vastly increased. This may possibly fiave arisen as the result of wear of the shackle bolts, but it is more likely to be due to slackness of the shackle plates, which take all the brunt of side swaying and swinging, more particularly felt in fast cornering. It is usually quite simple to take up this wear, for if the split pin in the the bolt end be removed it will be found that the nut can be tightened up to quite a considerable extent. It is worth while to examine the condition of the bolts periodically, and if they show any signs of becoming grooved they should be replaced at once. C.W.F.

B23

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29тн Мау, 1916.

# THOUGHTS & OPINIONS

The Suggestions of To-day may be the

Realities of To-morrow

### NOTICE TO CORRESPONDENTS.

Preference is given to letters intended for publication which are to appear above the writer's name and address, but where this is not desired, initials or a nom de plume will be substituted if requested. In view of the

peculiarly wide publicity afforded to letters on light car and cyclecar subjects appearing in these columns, readers are asked to make their letters as brief as possible so that a greater number may be published. Letters received up to Wednesday morning first post usually appear In the following Monday's issue.

### Eggs for the Wounded.

Some kind friend writes :---- "Seeing your appeal in THE LIGHT CAR AND CYCLECAR I am sending you 100 eggs for the use of our wounded men in the base hospitals." Needless to use of our wounded men in the base hospitals. Accelers to say, these have been dealt with as desired, and we are most grateful for the generous gift. F. CARL, Hon. Secretary, National Egg Collection for the Wounded. 154, Fieet Street, London, E-C. \* Will other readers take this as a hint? Why not organized

\* runs to collect eggs for the hospitals?



The cult of the three-seater. The photo. shows that there is no difficulty in getting three abreast in the A.-C.

### Originality in Springing. Dr. Low Replies.

I would like very briefly to thank your correspondents for their extremely interesting comments and additions to my little article on springing.

As the makers of the J.M. shock absorber say, one of the great points of my experiments was to prove that the addition of a coil spring in this manner to a car is almost essential in many forms of springing if reasonable comfort is to be obtained. Comfort—and this I am very particular about—is just as important to the chassis as to the driver, and a properly-designed supplementary spring is capable of saving wear and tear to every part of a car. I have conducted an experiment with a gyroscopic correction over one vertical motion in order to test the movement of a body, but this does not vary so much in the actual deflection as it does in the rapidity of movement, which is so fatal to general softness.

I must say that I consider Mr. Leeming's contribution to be most important, for the question of roads is going to be one of the great problems of the future. His suggestion for receiving a blow in the direction of its application is yet another proof of the fact that there are many interesting and valuable means for improving the present springing.

A. M. Low, D.Sc., etc., etc.,

Captain, R.F.C., O.C.

### Sunday Motoring.

Was there ever such a pastime so mercilessly attacked and with so many enemies? Why not stop all forms of recreation on Sunday, whether necessary or not, including reading Sunday newspapers, etc.? Ego.

Harrow.

### The Spartan Method.

Stopping motoring on Sundays? Certainly, if it is neces-ry. The only proviso is that such a regulation should apply to Cabinet Ministers, munition workers, motorbus users, as well as the idle rich. The doctor also should not use his car on Sundays, nor the country clergyman either. Let the people find out how very inconvenient such a regulation would Let the be, and we should hear a great deal less of the auti-motorist. Cambridge. J. ATKINSON. Cambridge.

### Magneto Troubles.

Have your readers experienced much trouble with mag-netos this year? I have had trouble myself, and found to my surprise that a very old magneto had been fitted to a small car I purchased new this year. It seems that new magnetos are difficult to obtain, and old ones, often very heavy and

> Banbury Cross, which has just been restored.



It is contemporary with Waltham Cross illustrated on another page. The car is a 10 h.p. Swift.

clumsy, are made to serve. I have come across other men with magneto trouble, usually with an American type. I have seen no British magneto in use yet. Are there any employed on modern light cars? Are we teally meeting German competition in this important respect? London, N.W.

THE VITAL SPARK.

### MORE SUGGESTIONS FOR STEAM LIGHT CARS.

### Another Steam Car.

If your contributor "T3711" will possess his soul in patience If your contributor "13/11" will possess his soul in patience till the end of this devastating war, he will see on the road a steam car of my design and manufacture which will, I thick, meet his requirements. This car will be nominally of 10 h.p., but when needed will develop 20 h.p. This car is designed to give 30 m.p.g. on cheap paraffin fuel, and to run 200 miles without refilling the water tank. This result will be obtained by means of a special condensing process. There will be no visible steam, and the car will be perfectly silent. The engine of this car is of a special type and all passi-

The engine of this car is of a special type, and all possi-bility of valve trouble has been eliminated. The whole design is intended to make life easy for the owner-driver, as every thing is accessible and the adjustments few and simple. Th controls are practically the same as on a petrol car. Without going into details I may say that the starting difficulty has been surmounted. All parts will be standardized. The price will be about £125. An electric lighting outfit will be a standard fitting. "T3711" will see that the above specifications deal with all

the disadvantages mentioned by him in his letter.

the disadvantages mentioned by him in his fetcer. Steam cars have been retarded in their progress by lack of capital, stagnation in design, and the general ignorance of the public of the fine running powers of a good steamer. Now that everyone is looking for a highly efficient car at a low first cost and small running expense, the steam car has a chance of coming to the front again, providing it is simple in design, thoroughly reliable, and a quick starter. ENGINEER.

Brighton.

### Weight and Smell.

In reply to your correspondent H. V. Curtis, we contend that a well-designed steamer is very little, if any, heavier than a petrol car. Does he know that a steamer needs no gearbox, no magneto, no silencer, and no self-starter? We can lift our 10 h.p. twin-cylinder steam engine shoulder high, but we doubt if this would be possible in the case of a petrol engine. Then our generator requires only a bucketful of water, and we doubt if it is any heavier than the combined weight of the parts above mentioned.

parts above mentioned. He states that the smell of paraffin is always prevalent. If this is so, it is either a poor design and arrangement or pure carelessness. If the glands are kept tight and the design is good there is absolutely no smell. We would remind him that petrol vaporizes at a much lower temperature than paraffin, and therefore is more likely to smell. But we think he will agree with us that petrol is very rarely smelt when driving a petrol car, and therefore paraffin is less likely to smell. With regard to the aurovance caused by people referring

With regard to the annoyance caused by people referring to the steamer as a "Tin Lizard" we have heard wonderful noises coming from the gearbox of the petrol car, and have also heard polite language from the chauffeur when endeavour-ing to start his petrol engine. Moreover, we understood that only American productions, such as the Ford, were classed as

"tinny," and that British cars were of sound construction and of good design. The one disadvantage of the steamer is the eight minutes

wait for steam, but this is compensated by the beautiful run-

wait for steam, but this is compensated by the beautiful fun-ning and control, whether on the level or uphill. The price of paraffin is always less than petrol, and the 10 h.p. steamer will do the work of the 20 h.p. petrol car. J. B. SANKEY.

E. ROXBURGH.

### The Steam Turbine Car.

I was greatly taken with "T3711's" letter on steam cars, as by going a step further we may have the solution of the cheap The suggestion is to make the back axle in two light car. light car. The suggestion is to make the back axie in two halves and fit turbines, or, if too fast for the road, reduce by chains, with (1) flash boiler, (2) a regulator valve, (3) a pedal to shut off steam and act much the same as a clutch, and (4) to shut on steam and act much the same as a clutch, and (4) turbines. You would save engine, gearbox, differential, mag-neto, etc. If such a machine were possible there would not be a toothed wheel in it. I know there are small turbines made for fans and the like; the only question is can they be made slow enough? Such a machine would hardly need a reverse turbine, as the weight would be calculated without under or normality. water or paraffin. TURBINE.

Edinburgh.

### The Steam Three-wheeler.

I have kept in touch with the "steamer" since the days of the two-seater Locomobile, and although this car had serious limitations, it was a serviceable little machine in the hands Imitations, it was a serviceable little machine in the hands of a man who understood the handling of a boiler. Since then many improvements have been made, especially in regard to steam generation and the use of superheated steam, and I feel sure if Mr. David J. Smith, of Loudon, who has had many years experience of steam vehicles, would write to THE LIGHT CAR AND CYCLECAR and give readers an idea of what steam is capable, it would help to lessen the grejudice which at present exists and pave the way for a more generous ac-ceptance by light car drivers of any new types that may be put on the market.

put on the market. Some 14 or 15 years ago an article was published in "The English Mechanic" by Mr. T. Hyler White on the building of a two-seater three-wheeler, which had a two-cylinder single-

of a two-seater three-wheeler, which had a two-cylinder single-acting engine with cam-operated mushroom valves and re-versible, with the exhaust port in the cylinder walks; perhaps Mr. White or Mr. David J. Smith could tell us whether this type of engine has been tried in the four-cylinder design and whether any of these vehicles are on the road to-day. It is much to be regretted that the "steamer" was not allowed a chance in the reliability trials, and I think if the plain facts regarding simplicity, reliability, cost and running expenses were to be given us by the steam-car champions, some of the lost ground might be gained and prospective buyers educated as to the merits of this style of road locomo-tion. J. DEAN SCHIEL. tion. J. DEAN SCHIEL.

Manchester.

### THE TAXES AND THE ANTI-MOTORING CAMPAIGN.

### The Real Hard Cases.

I feel that a word of thanks is due to you from the country clergy, whose cause you are championing against the unjust taxation of cars used for parochial purposes.

I have been appointed to a country living in which there are two churches  $3_2$  miles apart, the efficient working of which is impossible without the use of a car. The following is the normal course of events every Sunday: Ce'ebration at A church at 7 a.m. and at B church at 8 a.m.; morning services at A at 10, and at B at 11.15; afternoon children's service at 3 at A and B alternately, followed by evensong at A at 5.30 and B at 7 o'clock. It would be interesting to know how this arrangement can be maintained by a single-handed priest apart from his use of a car. A motorcycle is out of the question, because my wife has a series of organizations (M.U., G.F.S., etc.) to work during the week, and, on great festivals, when I am obliged to have assistance, she has to take the priest to the outlying church.

No doubt there are many similar cases among country in-cumbents, who, like myself, are expected to maintain a huge

rectory on a mere pittance and to pay 2s. 10d. a gallon for petrol, plus a doubled or trebled tax on a vehicle which is in no sense a luxury, but merely the essential means of carrying on one's work efficiently. E.O.J. Near Oxford.

### Petrol and Polling.

"About 400 motorcars have been lent in the (Tewkesbury) Division." Carlyle's definition of humanity is peculiarly ap-propriate in the Tewkesbury Division. Why should motorists waste petrol and so (according to authority) "help the Ger-mans." in a contest between Tweedledum and Tweedledee? Is it not time that the use of motors in elections was made It not time that the use of motors in elections was made illegal? It is illegal to pay the railway fare of a voter, or even a tram fare, but we may fetch him (or I have myself been asked to do) 150 miles by motor, and take him back again! I believe that some voters express a determination not to vote if there is not a car to fetch them. So much the better: a vote given for the sake of a ride is worthless as an expression of political conviction—about as worthless as the devotions of a church may who rafused to attend church unless devotions of a churchman who refused to attend church unless the parson motored him. H. S. MORGAN.

R25

# NOTES & QUERIES. Selected Replies to the Most :: Interesting Questions. ::

.....

**CONVERTING OLD RUBBER TO NEW TYRES.**— "C.A.S." (Nice) asks what process has to be used in order to convert old rubber into tyres and other rubber goods, and if it is one that an amateur can undertake.—REPLY: This is a process that requires an expensive plant, and is certainly not one that any amateur could undertake satisfactorily.

**HAND CONTROL.**— "A.St.E." asks for advice on a type of light car that could be most suitably converted to exclusively hand control. He has two 1904 De Dions, with expanding gears altered for hand control at present, and thinks that, besides these and the Ford, there is nothing else suitable.— REPLY: We think the alteration could be made very easily on a G.W.K., the pedal controlling the clutch and foot brake being substituted for a hand lever placed centrally (left-hand control), while the only other pedal, the accelerator, can be replaced with a throttle control on the steering wheel.

**CYCLECAR WITH VARIABLE PULLEYS.**—"W.B." (Weybridge) asks if it is practicable to use two expanding pulleys for variable gear and clutch in the transmission of a cyclecar; whether there would be any appreciable wear on the belts as compared with solid pulleys; and if it would be necessary to have any arrangement to take up the slack of the belts on the lower gears?—REPLY: We think the arrangement suggested will prove thoroughly unsatisfactory; the belts being used as a clutch will reduce their life to about 1000 miles, and some arrangement will certainly have to be provided for taking up the slack of the belts.

**TRYING A SECOND-HAND CALCOTT.**—" J.O.C." (B.E.F.) writes:—"I notice a Calcott advertisement in THE LIGHT CAR AND CYCLECAR, and it seems to be rather like the car I am looking for. I wish to try a second-hand car first, and then if it suited me, would buy a new one of the same make. I should be glad to know the lowest price and your opinion of the Calcott as regards reliability, power and speed." —REPLY: We strongly recommend the Calcott light car, and if you can get a second-hand 1914 model in good condition it should serve your purpose. The 1915 model is a slight improvement on the one before. The prices range from £160 to £185, but a 1915 model would cost about £225.

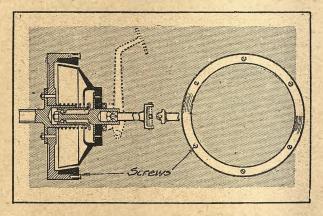
**RAISING THE GEAR.**—"J.A.W." (Beccles) writes :—"I have just finished building a cyclecar and geared it too low, the top gear being about  $7\frac{1}{2}$  to 1. Can you tell me how to alter this so as to have a top gear of about  $4\frac{1}{2}$  to 1? The transmission is by chain to a gearbox, thence by chain to a countershaft, and finally by belts to the back wheels."—REFLY: As our correspondent does not want to change the small sprockets on the gearbox or clutch, the only thing to do is to substitute a 16-tooth sprocket on the countershaft for the 30-tooth one at present, which will give a top gear of  $4\frac{1}{2}$  to 1. The chain, however, is not running under the best conditions on such small sprockets on the gearbox.

IMPROVING THE M.P.G.—"Col. H." (Penarth) writes: —"I have a G.W.K. with Zenith carburetter, which gives 46 m.p.g. Could I improve on this with an extra air inlet? If so, which one would you recommend?"—REPLY: If your G.W.K. with a Zenith carburetter is giving 46 m.p.g., we should regard this as very good, and we are doubtful whether you can improve on it without having specially-cut cams designed more for consumption than power. An extra air inlet is merely a compromise, and if it produces good results shows conclusively that the carburetter is not properly tuned, because if a carburetter capable of such fine adjustment as the Zenith is adjusted correctly, an extra air inlet is not necessary. If you do decide to fit one, however, we should recommend the Bowden. If you are very keen on getting considerable increase in miles, per gallon, and do not mind sacrificing a slight amount of power, we advise you to get into touch with the Colville Motor Works, Ltd., 40, Cliswick Common Road, London, W., who specialize in cutting cams. We believe they charge £5 for altering the cams of a G.W.K. WEIGHT OF A TRICAR.—" R.G.S." (London, N.) desires to know the limit of weight for a tricar to come under the motorcycle rating, also if the length of stroke of an engine makes any difference to the power.—REPLY: The limit of weight for a tricar to come into the motorcycle rating is 3 cwt. A longer stroke obviously increases the cubical contents of the cylinder, and, therefore, develops higher power.

**REMISSION OF TAX.**—"D.H." has a sidecar, on which he has already paid the tax of £1, and wants to know if that would be remitted off the £3 3s. tax on a light car, so that he would only have to pay £2 3s.—REFLY: The fact that you have a motorcycle on which you have paid the tax of £1 already this year does not entitle you to any remission off the £3 3s. tax payable on a light car.

MORGAN QUERIES.—" A.C." (Farnborough) inquires regarding the prices of second-hand Morgans, miles per gallon, carburetter, air pressure in the tyres, taxes.—REPLY: The price of a 1915 air-cooled Morgan would be about £100, but a 1914 model could be obtained from £80 to £90. The miles per gallon dypend a great deal on the driver, 65 m.p.g. to 80 m.p.g. We recommend the A.M.A.C. carburetter, but are doubtful whether paraffin could be used successfully because of the difficulty in heating, the engine and carburetter being somewhat exposed. The air pressure recommended for the front tyre is 50 lb., and for the rear tyres 55 lb. to 60 lb. The tax will be £4 14s. 6d., if the new taxes go through, or £1 otherwise.

**RELINING AN INVERTED CONE CLUTCH.**—"R.G." (Cardiff) writes —"Can you tell me how to reline a Singer clutch?"—REPLY: This is a clutch of the inverted cone type, lined with Ferodo, and the only difficulty is to remove the clutch mechanism. The first step is to disconnect the pro-



Diagrammatic illustration of a clutch of the inverted cone type, showing the six screws that must be removed to free the clutch from the flywheel before relining the cone.

peller shaft at the universal joint. Six screws will be found round the flange holding it to the flywheel, and the next job is to remove each of these. While removing the screws the clutch pedal should be held out, otherwise all the strain of the spring will come on the last remaining screw. Then by removing the grub screw the clutch pedal and thrust blocks can be folded back, and the whole of the clutch withdrawn from the flywheel.

### Route Reply.

TO NEWCASTLE FROM BOURNEMOUTH.—"F.A.H." (Bournemouth) writes:—"Kindly advise me as to the best route to take from Bournemouth to'Newcastle-on-Tyne, avoiding London; also where you would recommend staying, taking three days over the journey."—REFLY: A good route to Newcastle from Bournemeouth would be via Lyndhurst, Romsey, Stockbridge, Andover, Newbury, Abingdon, Oxford, Banbury, Daventry, High Cross, Lutterworth, Leicester, Newark, Doncaster, Ferrybridge, Wetherby, Boroughbridge, Scotch Corner, Darlington, Durham, and Chester-le-Street. The distance is about 335 miles, and Banbury (or Daventry) and Doncaster would be suitable and convenient places for breaking the journey.

B26

# By The H.F. Process olqmi2 21 gnizinsoluV

new to the job can follow them easily. so simple and concise that a man or woman quite Vulcanizer in a few minutes. The instructions are and punctures or bursts in tubes, with an H.F. a light delivery van-can repair cuts in covers, car any chauffeur who drives and looks after nwo sid south odw nam fanoissoford to sson -isud yns experience any busi-

in a short time, you can return it without expense. of miles to the life of your tyres and save its cost satisfied that the H.F. Vulcanizer will add hundreds tisement and post it to us. Then, if you are not have to do is to attach your card to this advernov IIA advantage of our FREE TRIAL offer. You can test these claims for yourself by taking

### "03 <del>%</del> LTD. HARVEY FROST

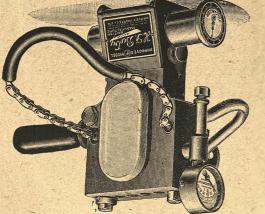
39-41, Gt. Eastern Street, London, E.C. -: smoonwoll guitortenoms Demonstration Showroome -: emonwoon Show and Wholesale Demonstration

27, Charing Cross Road, London, W.C. -: emocywork gniterieng Demonstrating Showroome :-

7, BROOK STREET, LONDON, W. TREDECAR'S, Lighting Specialists, :03 noitediled no sort post free on application to:

Existing lamps easily converted. THE Thing tor Light Cars in Troubles. New Construction. Reliable and Fool-proof. No Cut-Simple in Construction, therefore Complete with 5 Lamps (as illustrated). Lighting Set only. PO SEI EIF PO SE 6F **,, LHE LKEDEFECL**. **LIGHT CAR LIGHTING SET** 

you will be working for the cause of the new muluring. READER By mentioning " The Light Car and Cyclecar " when corresponding with advertisers,



are free on request. dealt with in General Catalogue No. 50. Both books suitable for private garage and workshop service are described fully in Booklet No. 57. Other models The H.F. " Baby ' Vulcanizer, as illustrated here, is

EF

### THE H.F. "BABY" VULCANIZER

packed in touring case, costs only with complete equipment, includ-ing a supply of H.F. Plastene,



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29тн Млу, 1916.

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HELP THE by letting advertisers know that their advertisements MOVEMENT in "The Light Car and Cyclecar" interest you. B28

### 29тн Мау, 1916.

The Light Car and Cyclecar

Supplement iii.



**TO THE** By mentioning "The Light Car and Cyclecar" when corresponding with advertisers, **READER** you will be working for the cause of the new motoring. B29





### RATE FOR ADVERTISEMENTS IN THIS SECTION

SIXTEEN WORDS, 1/- (MINIMUM). 6d. per eight words after.

- The Rates for Trade Advertisements are 18 words 1/6, and 1d. per word after. These are designated "TRADE," for the guidance of the reader. Subject to a discount of 5 per cent. for 18 consecutive insertions, 10 per cent. for 26, 15 per cent. for 22. Terms: Cash with order, and otherwise net. N.B.—In the interests of our readers we shall not hesitate to take proceedings against any persons in the trade who succeed in obtaining the insertion of their advertisements as "Private" and shall insist to the utmost upon the payment of all law costs incurred.
   NUMBERS. Advertise desired to the magnetic cash of the section of the
- BOX NUMBERS.—Advertisers desiring to have replies sent care of "The Light Car and Cyclecar" may do so on payment of a nominal fee of 6d to cover booking and cost of forwarding such replies. The words Box , c/o" The Light Car and Cyclecar," count part of the advertisement.

DISPLAY ADVERTISEMENTS, ordinary issues, £14-0-0 per page-Scale of charges with reduction for series, sent on application.

Scale or charges with reduction for series, sent on application. Copy for, and all matter relating to, advertisements must reach the offices first post Wednesday, and should be addressed to THE MANAGER, "THE LIGHT CAR AND CYCLECAR," 7-15, ROSEBERY AVENUE, LONDON, E.C., to whom all communications concerning advertisements should be sent. If proof of displayed advertisements is required, copy should be forwarded in sufficient time to allow of it being submitted and returned.

Head Offices: -7-15, Rosebery Avenue, London, E.C. Telephone No. 5292 Holborn (four lines). Telegrams: "Pressimus, Holb., London."

Midland Offices: -9 & 10, Burlington Chambers, New St., Birmingham, Telephone No. 2428 Midland, Telegrams: Presswork, Birmingham." 6, Warwick Row, Coventry, Telephone No. 983, Coventry, Telegrams: "Presswork, Coventry."

2467.

These advertisements are now set in smaller type to meet the Government demand for economy in paper. At the same time the distinctive style of the setting makes it as easy as before to find the advertisement of any particular make of car.

### LIGHT CARS AND CYCLECARS FOR SALE.

A.C. Sociable, repainted and overhauled, splendid condition, hood and lamps, £35. Croft, The Limes, Rochford, Essex. 184-d992 lamps, ±35. Croit, The Linkes, roomstry, Lamps, tyres and paintwork A.C. Sociable, 5-6hp, 2 speeds, hood, screen, lamps, tyres and paintwork excellent condition, £38. P. J. Evans, John Bright St., Birmingham, Trade 184-213

A:C. Sociable, modele-de-luxe, specially fitted wheel steering instead of tiller, large body, will take three, Binks carburetter, hood, screen, side curtains, large headlight, generator, side and tail lamps, luggage carrier, spare tyre, tube, chain, value, recently coach-painted, very smart, re-Lable and economical, \$50, bargain. Roberts, Littlethorpe, Ripon. 184-a469 A.-C. Sociable, all new tyres and tubes, recently overhauled and up-holstered, 3 electric, 1 headlamp, generator, hood, screen, speedometer, new spare chain, tools, clock, good as new, ±50, trial given. Russell, c/o Tamplin, Twickenham Green, Twickenham. 'Phone, 96 Richmond. 186-a105 A.-C., 10hp, 1914, dickey seat, 5 detachable wheels, full equipment, £160, Service Company, 292 High Holborn, London. Trade zzz-215

A.C., late 1914, 2-scater, painted royal blue, hood, screen, C.A.V. dynamo lighting set, speedometer, 5 Sankey detachable wheels, perfect mechani-cal condition, fully equipped, bargain, £190. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Maylair. Trade 184-241 A.C. See "Cars Wanted." Alfred Goad. Trade 184-2496

A.C., 19hp, 1913, all fittings, just overhauled, in very fine condition, must sell at bargain price of £105. Manner, 13 Redcliffe Gardens, South Ken-sington, London, S.W. 184-a468

A.C., 1915, model figure, 10hp, 2 doors, centre control, C.A.V. lighting set, 8 volts, speedometer, patent and bulb horn, spare wheel and tyre, two other spare tyres, all tyres Avon Sunstone, many other spares, price 2180. Rudman, Baker, Longton, North Stafford. 184-a850

### LIGHT CARS AND CYCLECARS FOR SALE (continued).

A.C., 10hp, late 1915, 2-seater, painted grey, 5 detachable wheels, 5 lamps, perfect condition, very economical car, with exceptionally quiet engine, £185. Stokes, Salisbury. 184-a446

A.-C., late 1914, 2-3-seater, small mileage, as new, £150. 81 Wilberforce Rd., Finsbury Park, N. 184-f136

ADAMSON cyclecar, 2-seater, double belt drive, 10hp 2-cylinder engine, water-cooled, with three speeds and reverse, fitted with magneto, all tyres in perfect condition, with 1 spare cover and 2 tubes, spare belt, complete set of brass lamps and generator, speedometer, horn, tools, and small spares, repainted and varnished, can be seen any time London district; owner bought larger car. Apply, Box No. 8271, care of "The Light Car and Cyclecar." 184-a510

ALLDAYS, 10hp, 1916, 2-seater, double dickey, dynamo lighting, 2-spare wheels, full equipment, almost new, £190. Alfred Wastnage, 65 Gt. Portland St., W. Mayfair 3005. Trade 184-160 ALLDAYS, 8hp, 1913, 45 m.p.g., Bosch, Zenith, 3 speeds, speedometer, lamps, spares, etc., owner-driven, week-ends only, £30. Petty, 199 Picca-dilly, W. 184-a438

dilly, W. **ALLDAYS** Midget. Introductory bargain sale. To introduce my new pre-mises to you, I am offering bargains, on cash, exchange or deferred terms. See my miscellaneous advert, also notice new address, Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 177 Gt. Portland St., London, W. Tel., "Womanish, London." 'Phone, May-fair 2539. Trade 184-184

fair 2839. ALLDAYS, 1915, 10hp, rew August, dynamo lighting, speedometer, tools, etc., perfect condition, only done 1500 miles, £175, no offers. Newmany 184-8504 ALLDAYS, 1914, 4 cylinders, 8-10hp, only run 6000 miles, owner-driven, 51 lamps, 5 detachable wheels, speedometer, hood, screen, splendid condi-7 tion, £120, or nearest offer, quick sale. Pettinger, Gravel Hill, near Stroud.

BABY PEUGEOT. The call of the moment is "Be economical." 50 miles to the gallon, latest model complete, with 3 lamps, horn, tools, good hill-slimber, £163; seen by appointment. Madge M. Allen, 363 Croydon Rd., Gaterham Valley, Surrey. Trade 184-c404

BABY PEUGEOT, 1916, sporting model, painted brown, only few weeks old, and as good as new, £135. P. J. Evans, John Bright St., Birming-ham. Trade 184-210

BABY PEUGEOT, in good condition, with 2 acetylene lamps, generator, tail lamp, tools, thoroughly good tyres, spare tube, £60. Willis, Eton, Windsor. Trade 184-a470

BABY PEUGEOT de luxe model, in stock. Alfred Wastnage, 65 Gt. Portland St., W. Mayfair 3005. Trade 184-161 BABY PEUGEOT, de luxe model, late 1915, painted yellow, fitted with hood, screen, 4 lamps, tools, and spares, running boards, and luggage carrier, 45 miles to gallon, perfect in every way, only done 800 miles, 135 guineas. Kinross, Old Evington, Leicester. 185-a429

BABY PEUCEOT, 191° model, only 3 months old, lamp and hood, £135. H. 26 Seaside Rd., Eastbourne. 184-a507 CALCOTT. See "Cars Wanted." Alfred Goad. Trade 184-a497

CALCOTT, 1915, 10hp, 2-seater, 5 detachable disc wheels, all tyres new, speedometer, horn, hood, screen, dynamo lighting set, £250. See Below.

CALCOTT, 1914, 10hp, 2-seater, hood, screen, dynamo lighting set, 5 de-tachable wheels, oversize tyres, all good, Colonial radiator, £220. See

below.

CALCOTT, 1914, 10hp, 2-seater, hood, screen, 5 lamps. 5 detachable wheels, etc., £200. Howard Stephens, Berkeley Ave., Park St., Bristol. Trade 184-74

**CALCOTT**, late 1915, 10hp, 2-seater, with special dickey seat, hood, wind-screen, 5 detachable wheels and tyres, 12-volt dynamo lighting set, 2 horns and all accessories, price £225. R. Bamber and Co., Ltd., 33 Livers-117 Rd., Southport.

CALCOTT, 1915, 2-seater, dynamo lighting, dickey, speedometer, only run 3500 miles, perfect condition throughout, £235. Below.

**CALCOTT**, 1914, 2-seater, dynamo lighting, speedometer, Klaxon and bulb horns, spare petrol can, new tyres, overhauled, £200. Smith and Hunter, 15 Little Portland St., Oxford Circus. Trade 184-247 CALCOTT, 1914, 2-seater, completely equipped, in excellent order, £185.

CALCOTT, 1915, 2-seater, dickey, dynamo lighting, in excellent order. Storey's, 118 Gt. Portland St., W. Trade 184-226

CALCOTT, second-hand, in excellent order, special car, complete with electric side and rear lamps, acetylene headlamps, separate generator, specially upholstered, speed, clock, mats, hood, cover, etc., #210. Colmore Depot, 49 John Bright St., Birmingham. Trade 184-222

CALCOTT, 10hp, 2-seater, dynamo lighting, dickey seat, in stock, latest model. Alfred Wastnage, 65 Great Portland St. Mayfair 3005. Trade 184-159

CALCOTT, late 1915, dynamo lighting, speedometer, spare whe paintwork unscratched, car in very fine condition, £235. Below. wheel, etc.,

CALCOTT, 1914, 5 lamps, speedometer, spare wheel, car just repainted and engine overhauled, fine condition throughout, £190. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 184-252

CALCOTT, 10.5, late 1914, dickey, electric side and tail, Dunlops, 700 by 85, 5 wheels, many extras, speedometer, grey, splendid condition, £185; near Birkenhead. Box No. 8266, c/o "The Light Car and Cyclecar." 184-a508

One of many similar letters:	Manchester, 13th Oct., 1915. Dear Sirs,— <i>Re</i> my advertisement in this week's issue, I had a telegram the moment I arrived at my surgery, and am still receiving replies. May your journal prosper. J. A. S.	- Telle - H
 letters.—	Later. Wednesday, the buyer coming from London. Later. Wednesday, the buyer coming from London.	

### LIGHT CARS AND CYCLECARS FOR SALE (continued).

CALTHORPE, 1915, G.D.M., 2-seater, completely equipped, in good order, £185. Storey's

CALTHORPE, 1914, 2-scater, completely equipped, in splendid order. £150.

CALTHORPE 2-seater, 1915, dynamo lighting, self-starter, in splendid order. Storey's. CALTHORPE coupe, 1915, dickey, dynamo lighting, in good order. Storey's.

CALTHORPE 4-scater, 1915, completely equipped, in excellent order. Storey's, 118 Gt. Portland St., W. Trade 184-227

CALTHORPE, 1916, new 4-seater, dynamo lighting, in stock. Storey's.

CALTHORPE coupe, 1916, new dynamo lighting, in stock.

CALTHORPE new 1916 sporting chassis, fitted with our special design 3-seated body, concealed hood, dynamo lighting, in stock. Storey's, 118 Gt. Portland St., W. Storey's, 118 Trade 184-228

CALTHORPE. P. J. Evans, John Bright St., Birmingham. Immediate and prompt delivery 4-seater, coupe, Grand Duke Michael and sporting models.

CALTHORPE, 10hp, late 1915, 4-seated torpedo, painted grey, one-man hood, side curtains, screen, 5 Sankey detachable wheels, electric side and tail lamps, acetylene headlamps, generator, good tyres, perfect mechani-cal condition, car only done 3000 miles, genuine hargain, £225. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 May4ar. Trade 184-238 CALTHORPE Minor, 1914, in splendid condition, 5 detachable wheels, speedometer, 5 lamps, seen week-end, or by appointment, £135. B., 302 Sangley Rd., Catford.

CALTHORPE, 10hp, 2-seat, acetvlene headlamps, electric side and tail, horn, clock, dickey scat, 5 wheels and tyres, grey. Colmore Depot, 49 John Bright St., Birmingham. Trade 184-219

John Bright St., Birmingham. CALTHORPE 1916 coupe, 10hp, lighting set and self-starter, bulb horn, spare wheel and tyre, for immediate delivery. Prices and particulars, English Light Car Specialists, Robinson's Garage, Green St., Cambridge. Trade 184-217 CALTHORPE. Introductory bargain sale. To introduce my new pre-misees to you, I am offering bargains, on cash, exchange or deferred terms. See my. miscellaneous advert, also notice new address, Marian G. Paige, the only Lady Motor Dealer (12 years practical experience). 117 Gt. Portland St., London, W. Tel., "Wommish, London." Phone, May-fair 2839. Trade 184-186

CALTHORPE Minor, standard model, also a G.D.M. model, in stock for immediate delivery. Pepper's Garage, Shelton, Stoke-on-Trent. Trade 184-a454

CALTHORPE, 1914, officer's sporting de luxe type, unused 12 months, only driven 2490, excellent order, very speedy, indistinguishable from new, speedometer, acetylene headlamps, electric lighting, many extras. Keddie, crowstone Rd., Westcliff. 184-a479

**CARDEN**, 2 1914 models, 4.5hp J.A.P. engines, 1 finished in white and black, and the other in red, 265 and 262 respectively. Maudes', 100 Great Portland St., London, W.

Fortland St., London, W. CARDEN. Introductory bargain sale. To introduce my new premises to you, I am offering bargains, on cash, exchange or deferred terms. See my miscellaneous advert, also notice new address, Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 17 Gt. Portland St., London, W. Tel., "Womanish, London." Phone, May-fair 289.

CHARRONETTE, 2-seater Charronette, sports 2-seater, £250 and £270 respectively, with C.A.V. lighting set. 65 Piccadilly, W. - Trade 187-708 CHARRONETTE, 8hp, 1913, overhauled, repainted, dynamo lighting, fully equipped, splendid little car, £215. Petty, 199 Piccadilly, W. 184-a439

CHATER LEA, 8hp, 1914 model, water-cooled, 3 speeds and reverse, gate change, little used, paintwork good, hood, screen, horn, lamps, jack, tools, owner-driven, excellent condition throughout, examination, reasonable trial. H. B., 238 Norborough Rd., Leicester. 184-a467

CHATER LEA, 1914, 8hp, 2-seater, splendid hill-climber, 50 miles to gal-lon. Taylor, 6a Ordehall St., W.C. 184-a456

100. Taylor, on Ordenant Su, W.O. CRESCENT. Introductory bargain sale. To introduce my new premises to you, I am offering bargains, on cash, exchange or deferred terms. See my miscellaneous advert, also notice new address, Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 177 Gt. Portland St., London, W. Tel., "Womanish, London," Phone, May-fair 2839. Trade 184-187

**CROUCH** light car, extremely fast, climb anything, not used since being thoroughly overhauled, just snit officer to cover distance, owner must sell, price 495, all on, including spare wheel. Apply by letter to Yelland, 16 Lysander Grove, Upper Holloway, N. 184-172 **CROUCH**, 1913%, good order, just been overhauled, and new Binks car-buretter added, new gears, etc., paint and tyres good, 470, bargain. Biciely, Leyburn, Yorks.

DEEMSTER, September, 1914, 4-cylinder, 2-seater, green. 40 m.p.g., £120. Graham, 104 Victoria St. 184-e430

Graham, 104 Victoria St. **ENFIELD** 1916 light cars. 10hp, 4 cylinders, spare wheel and tyre, dynamo lighting set, 2-seater £215, 3-seater £230, coupe £255; cash, exchange and extended payments; 2-seater, £43 deposit and 12 monthly payments of £14 13s. 10d.; similar terms for other models, or other figures considered; quick delivery. Sole London Agents, Service Co.. 292 High Holborn, W.C. Trade zzz-570

ENFIELD, 10hp, 4-cylinder, 5 detachable wheels, nickel finish, painted biscuit and black, several extras, only used for demonstration, splendid condition, £150. Roper and Wreaks, 112 Arundel St., Sheffield, Trade zzz-922

ENFIELD, 10hp, 3-seater body, clover leaf type, dynamo lighting, 5 Sankey wheels, speedometer, etc., hardly used, guaranteed, £190 cash, de-ferred payments or exchange. Service Co., 292 High Holborn, London. Trade zzz-364

ENFIELD, 1915, 4-cylinder, two-three-seat, double dickey, hood, screen, repainted green and black, dynamo lighting outfit, 5 lamps, speedometer, clock, 2 horns, 5 wheels, bargain, £175, 3 months guarance, 12 months insurance free, tuition free, exchanges, deferred terms 5 per cent. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W. Museum 623, Trade 184-168

### LIGHT CARS AND CYCLECARS FOR SALE (continued).

ENFIELD, 1915, 10hp, 4-cylinder, 2-seater, dynamo lighting, painted Royal blue, perfect condition, £175. Ilderton, 25 Normanton Rd., Derby. 184-180

**CLOBE** cars and vans, new and second-hand, in stock; also all compo-nents; overhauls undertaken. Tuke and Bell, Ed., Globe Car Mannfac-turers, Carlton Engineering Works, High Rd., Tottenham. Trade 184-263 G.N., 1914, Shp. 3, speeds, 2-seater, hood, screen, 3 lamps, generator, excel-lent condition, 275. Cass's Motor Mart, only address, 5 Warren St., Euston Rd., W. Museum 623. G.N., 1912, thoroughly overhauled, repainted and re-upholistered, nearly new tyres, 2 brass headlamps, speedometer, etc., 50 m.p.g., fast and light, £65 or offer. Can be seen and tried at G.N. Works. Bell Lane, Hendon. Owner serving.

G.W.K. See "Cars Wanted." Alfred Goad. Trade 184-a498

G.W.K. 2-seater light car, Coventry-Simplex engine, complete with hood, screen, lamps, headlights, and horn, #92 10s. Collier, Deal Street, Halifax. Trade 184-943

G.W.K. A Car without a gearbox. Sole agent for Manchester, Gourlay, Fallowfield. Trade 189-634

G.W.K., 1916 models, buff or blue finish, in stock. Palmer, 202 Great Portland St., London, W. Mayfair 4942. Trade 195-81

G.W.K., sporting body, all in good condition, must be sold, no reasonable offer refused. Apply. Colam, Cudham, Kent. Trade 184-214
 G.W.K., 1913-14, 2-seater, hood, screen, painted biscuit and black, 4 lamps, speedometer, 700 by 80 tyres all round, £105, 3 months guarantee, 12 months insurance free, tuition free, exchanges, deferred terms 5 per cent. Below.

G.W.K., 1913, 2-seat, hood, screen, 5 lamps, just overhauled and repainted, £105, 3 months guarantee, 12 months insurance free, tuition free, ex-changes, deferred terms 5 per cent. Below.
 G.W.K., 1912, 2-seat, screen, 2 lamps, mechanical horn, in excellent order, bargain, £65. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W. Museum 623.

G.W.K., with lamps, mechanical horn, etc., excellent condition, £95. Hayes, 344 Euston Rd. Trade 184-206

Rayes, or Histori Rd.
 G.W.K., 1913, excellent condition, lately thoroughly overhauled at works, just repainted, oak shelf under bonnet, tyres all oversize and good, new tyre on Stepney, on view at Sutton's Garage, Church Lane, Hampstead.
 P. W. Abbott, 19 Gayton Rd., Hampstead. 295. 184-a465
 G.W.K., late 1913, Stepney, speedometer, little used, thorough condition, 295. W., Droskyn, Branley Ave., Coulsdon.

G.W.K., 1913, Cowey, 5 lamps, Mechanical horn, repainted, own improve-ments, tyres in good order, good spares. C. Farrant, 193 High Street, Peckham. 184-4453

G.W.K., delivered Christmas, 1915, only run 500 miles, 5 detachable wheels, 5 lamps, absolutely as new, sacrifice, £155. Eckford, 53 Kingston Hill, Surrey. 184-a451

G.W.K., 1914, 9hp model, complete to usual catalogue specification, excel-lent order and condition, £125. Maudes', 100 Great Portland St., London, Trade 184-165

G.W.K., guaranteed 4800 miles only, perfect going condition. owner's improvements, speedometer, Stepney, etc., price £100. Box No. 8270, etc." The Light Car and Cyclecar."

Light Car and Cyclecar. G.W.K., recently overhauled and repainted, 2 new tyres, Rushmore head-lights, smart, fast, economical to run, 95 guineas. Roberts, Knowl Hill, 185-a513 lights, smart, fas Twyford, Berks.

Twylord, Berks. **G.W.K.**, 1914, sporting body, just repainted and overhauled, oversize tyres, all lamps, spare rim and tyre, speedometer, etc., £120. Stretton and Smith, 23 Woodstock St., Bond St., W. **G.W.K.** Introductory bargain sale. To introduce my new premises to you, J am offering bargains, on cash, exchange or deferred terms. Bee my miscellaneous advert., also notice new address, Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 177 Gt. Portland St., London, W. Tel., "Womanish, London." Phone, Mayfair 2839. Trade 184-188 C.W.K. late 1014 fully equipmed and in splendid order, private car. £115.

Trade 184-188 G.W.K., late 1914, fully equipped and in splendid order, private car, £115. Maxwell Agency, 95 Crown St., Ipswich. Trade 184-a487

HILLMAN, 1914 model, 9hp, 2-seater with hood and screen, 5 detachable wheels and tyres and all accessories, in very nice order, £175. The Light Car Co., 331 Euston Rd., London, N.W. 'Phone, Museum 3143. T'de 184-246

HILLMAN, 1915, 2-seater, dynamo lighting set, splendid crder, £185. Hayes, 344 Euston Rd. Museum 3541. Trade 184-207

HILLMAN, 1915, External and the second state of the second state o

HILLMAN, 1914, dickey, excellent condition, all standard fittings, many extras, acetylene headlamps, electric side, tail, speedometer, sacrifice £160, Maesybryner, Chadwick Rd., Westeliff. 184-a478

£160. Maesybryner, Chadwick Rd., Westenn. HORSTMANNS. The best light car irrespective of price, luxurious economy combined with efficiency. Edwards and Parry, the special Lon-don agents, can give delivery from stock; every car specially tuned and tested by our Brooklands racing expert, increased power and more miles per gallon for no extra cost; trial runs by appointment. Write tor illus-trated catalogues, or call at 63 Great Queen St., Kingsway. Regent 5986.

HORSTMANN light car, 1915, 2-seater, seat starter, 5 detachable wheels, 5 lamps, in tip-top condition, absolute bargain at £125. Stanger, Motor Works, Spalding. Trade 184-106

HORSTMANN, late 1915, 4-cylinder. 3 speeds and reverse, fitted self-starter, 5 lamps, condition as new, £150. Colmore Depot, 49 John Bright St., Birmingham. Trade 184-220

HUMBERETTE, 1914, water-cooled, complete, like new, £90. Freeman, Oakes and Co., Sheffield. Trade zzz-921

HUMBERETTE, 1915, 8hp, 2-cylinder, 2-scater, completely equipped, in excellent order, £120. Storey's, 118 Gt. Portland St., W. Trade 184-230 HUMBERETTE, late 1914, water-cooled, 2-seated torpedo, painted bull, hood, screen, acetylene lamps, generator, wire wheels, Stepney wheel, fully equipped and in perfect condition, bargain, 2005. Mebes, Light Car Specialists, 156 GL. Portland St., W. Telephone, 3426 Mayfair. Trade 184-237

"THE LIGHT CAR is the best medium and has the largest circulation. AND CYCLECAR"

### LIGHT CARS AND CYCLECARS FOR SALE (continued).

HUMBERETTES, 1914, air-cooled, £70; 1914, water-cooled, £100; 1913, air-cooled, £65. 'Phone or call, Hayes, 108 and 344 Euston Rd. Museum 3541. Trade 184-205
 HUMBERETTE, 1913, a.c., in splendid condition, complete with hood, screen, lamps, dickey seat, and disc wheels, £05 or nearest#offer. Knibbs, Jeweller, Weybridge. 184-a471
 HUMBERETTE, 2-seater, beautiful order, under 2000, hood and screen, lamps, Stepney, clock, speedometer, recently overhauled, only wants seeing, 275. Adkins, Post Office, Upper Waimer, Deal. 184-a453

27.5. Adkins, Fost Office, Upper Waimer, Deal. 181-3453
HUMBERETTE. Introductory bargain sale. To introduce my new pre-mises to you, I am offering bargains, on cash, exchanges or deferred terms, See my "Miscellaneous" advertisement, also notice new address Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 177 Gt. Portland St., London, W. Tel., "Womanish, London." "Phone, Mayiain 2839. Trade 184-189

HUMBERETTE, 1913, not used during 1915, usual features, excellent condition. Legge, 6 Westbourne Rd., Luton. 184-a506

condition. Legge, 6 Westbourne Rd, Luton. 184-a506 **HUMBERETTE**, 1914, watez-cooled, speedometer, lamps, spate tubes, etc., tyres as new, paintwork grey, black wings, in splendid condition, car in nice order, best reasonable offer. Wells, Station Rd, Dovercourt. **Trade 184-a494 HUMBERETTE**, 1913, a.c., 8-10hp, hood, screen, etc., £50. Maxwell Agency, 96 Grown St., Ipswich. **HUMBERETTE**, 1913, overhauled and re-enamelled, new gears, piston rings, valves, Stepney (complete), petrol and luggageftearrier, extra air valve, clock, speedometer, hood, tools, spares, bargain, £75. 22 Springfield Rd, St.-John's Wood. **HUMBERETTE**, 2014, 500 for a f145 one brand new gears and Co

HUMBERETTE cyclecars, £50 to £145, one brand new. Percy and Co. 337 Euston Rd., London. Trade 184-261

HUMBERETTE, 1914, 9-seater, 8-10, twin Bosch, 3 speeds, reverse, hood, screen, any trial, gift, £67 10s. 1 Ebner St., Wandsworth. Trade 184-f231 HUMBERETTE, late 1914, a.c., painted yellow, lamps, Watford speedo-meter, Rotax screen, hood, Stewart signal, accessories, in good condition, £75, or near offer, private. 3 Coventry Rd., liford. 184-a431

HUMBERTTE, 1913, water cooled, excellent order throughout, had little use, electric light, £105. 37 Dunbar Avenue, Norbury. 186-a430 LACONDA, 1915 model, 5500 miles, C.A.V. lighting, Klaxon horn and extra air, price £160, private. Apply Box No. 8257, c/o "The Light Car and Oyclecar." 184-a437

LAGONDA, 1915, small, attractive 4-seater, in exceptional condition, £140. Percy and Co., 337 Euston Rd., London. Trade 184-258 LAGONDA 1914 light car, C.A.V. dynamo lighting, 5 detachable wheels, speedometer, 5 special electric lamps, exceedingly nice order, £125, bar-gain. 96 Crown St., Ipswich. Trade 184-489

gain. 96 Crown St., Ipswich. MARLBOROUGH 10hp sporting 2-seater, 5 detachable rims and tyres, dynamo lighting, in excellent order, £175. Storey's, 118 GL. Portland St., Trade 184-289 MATHIS, 1914, 8hp, sporting model, bucket seat, disc wheels, new tyres all round, just been repainted and overhauled, £140. Maudes, 100 Gt. Portland St., London, W. MATHIS, 1914, 10hp, G.P., dynamo lighting, repainted, a nice lot, £155. Percy and Co., 337 Euston Rd., London. MORGANS. We are contracting agents. Book for early delivery. Re-pairs and overhauls guaranteed. Burell's, 2 Albany Rd., Cardill. Trade 184-287 MORGANI, 1019, deschard, Burell'S, 2 Albany Rd., Cardill. Trade 187-176

MORGAN, 1913, standard, screen, lamps, £57 10s.; 1914 de luxe, all on, speedometer, £79 10s., hoth repainted 1916 style. Collier, Deal St., Halifax. Trade 184-941

MORGAN, 1915, Grand Prix model, blue, hood, windscreen, 700 by 80 tyres, disc wheels, acetylene headlights, with D.A. outfit, oil side and tail, all accessories, little used, £110. R. Bamber and Co., Id., 33 Liver-pool Rd., Southport. Trade 184495

 pool Rd., Southport.
 Trade 184-9/5

 MORGAN, Shp J.A.P., special sporting body, with bulbous back, excellent condition, any trial here, £56. Crow Bros., Guildford.
 Trade 184-a105

 MORGANS in stock, de luxe with M.A.G. engine, and all on, £127: Sporting with J.A.P. engine and all on £114. Exchanges entertained. Farrar, Hopwood Lane, Halifax.
 Trade 184-a105

 MORGAN, G.P., 10hp, disc wheels, just delivered, officer ordered abroad, for sale, price (with extras), £117 nett, no offers. Particulars, Gaston, 30 Evelyn Gardens, London.
 zzz-314

MORGAN, Grand Pick, 1915, side-by-side valves, screen, 3 lamps, horn, disc wheels, just repainted red and black, just thoroughly overhauled, £117 10s., 3 months guarantee, 12 months insurance free, tuition free, deferred terms 5 per cent. Below.

MORGAN, Grand Prix, 1915, No. 1 model, painted blue, screen, 5 lamps, disc wheels, speedometer, mechanical horn, bargain, £112 10s. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W. Museum 623. Trade 184-201

MORGAN, sporting, complete, hood, screen, speedometer, lamps, good as new. Colmore Depot, 49 John Bright St., Birmingham. Trade 184-218 MORGAN, 1914, air-cooled J.A.P., hood, screen, lamps, tools, spares, new condition, repainted, etc. Meadows, Melville St., Gainsborough. '184-a464 MORGAN, sporting, late 1915, 10hp M.A.G., overhead valves, tyres ex-cellent, new on back, lamps, hood, screen, horn, etc., just overhanled, £95 or nearest. C. Kew, Queen's College, Cambridge. 184-171

or nearest. C. Kew, Queen's College, Cambridge. MORGAN, 1915, Grand Prix No. 1, 8hp, finished purple, disc wheels, all lamps, specially large generator, petrol tin carrier, hood and screen, Wat-ford speedometer, very fast and going at a bargain price. Maudes Motor. Mart, 100 and 136 Gt. Portland St., London, W. Telephone, 552 Mavfair. Trade 184-170

MORGANS. Potter, Morgan specialist, Leicester Grove, Leeds, invites your inquiry for any model, spare parts stocked, chains, valves, Stepney, Road-Grip tyres; prompt attention and despatch; price right. T'de 184-a475 Roarden pour for Morgans. Grand Prix in stock, 1916 latest. over-size tyres, complete. Leicester Grove, Blackman Lane, Leeds. T'de. 184-474 BIZE GYRES, COMPLETE LEDGESTER OFFICE, DIALMENT LARGE, DECKS, T. G. NURTHE MORGAN. Introductory bargains on cash, exchange, or deferred terms. See my "Miscellaneous" advertisement, also notice new address. Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 177 Gt. Portland St., London, W. Tel., "Womanish, London." "Phone. Maylair 2833. Trade 184-190

### LIGHT CARS AND CYCLECARS FOR SALE (continued).

MORCAN de lune, new February last, used 5 weeks, perfect, best offer above £95. Woodley's, St. Leonards-on-Sea. Trade 184-492 MORGAN, 1914, sporting, spring-upholstered, speedometer, hood, screen, electric headlights and horn, tail, two Lucas oil lamps, bulb horn, spare cover, tube, valve, jack and tools, mechanically pertect, scen in London, #68. Box No. 8267, c/o "The Light Car and Cyclecar." 184-a481

Bos. Bos. No. 5267, CO "The light Car and Cyclecar." 181-8431
 MORGAN, 1915, No. 1, w.-c., G.P., absolutely new condition, hood, screen, 5 lamps, disc wheels, large generator, hand Klaxon, painted carmine, picked out in white, bargain, £100. 18 South Bruton Mews, Boond St. 184-4633
 MORGAN, Grand Prix, 1915, J.A.P. water-cooled, in new condition, 55 m.p.g., hood, screen, speedometer, 5 lamps, any trial, bargain, 95 guineas. Hook, 441 Brighton Rd., Croydon. Trade 184-4631

 Hous, and Brighton Rd., Croydon.
 Trade 184-a481

 MORGAN, late 1914, G.P., overhead valve, J.A.P. engine, excellent scandition throughout, 85 guineas, no exchanges, immediate sale necessary.
 Total 184-a481

 7 Church Hill, Leamington Spa.
 184-a481
 184-a481

MORGAN, Grand Prix, water-cooled, November, 1914, 3 lamps and genera-tor, hood, screen, spring seat and back, tyres excellent, new Stepney back, 2 spare covers and tubes, lot of spares, perfect condition, £95. Uollm, Tyn-1844-300

MORCAN 1916 models, the most economical 2-seater on the market; best deliveries are obtained from the Official Contracting Agents. Elec and Co., 15-16 Bishopsgate Avenue, Camomile St., E.O. Phone, Avenue 5543. Trade 184-264

Trade 184-264 MORGAN Grand Prix 1916, 10hp M.A.G. engine, air-cooled, electric side and tail lamps, electric horn, speedometer, soiled only, £120. Else and Co., 15-16 Bishopsgate Avenue, Camomile St., E.C. Trade 184-265

MORGAN, sporting, 1913, hood, screen, speedometer, lamps, little used, 265. Gallup, 619 Garratt Lane, S.W. MORGAN, 1915, sporting model, perfect coadition, heod, screen, lamp, spare tyre, chain, etc., £89. Judge, Edgworth Rd., Sudbury, Suffolk.

185-2.444

185-a444 MORCAN, 1914<sup>14</sup>, air-cooled, G.P., special sporting body, 700 by 80 tyres, new rear, tube, chain, plugs, 3 lamps, any trial, suit officer, bargein, 465. Dining Rooms, Redeliffe Rd., Kensingten, Lexdon. 184-a427 MORRIS-COWLEY, 1916, 4-seater, dynamo lighting, specdometer, all tyres as new, done small mileage, indiscornible from new, ±245. G. L. Francis and Co., 22 Panton St., Leicester Sq. Trade 184-182

MORRIS-OXFORD. See "Cars Wanted." Alfred Goad. Trade 184-a500

MORRIS-OXFORD, 1913, just repainted and overhauled, in beautiful con dition, 5 wheels, 5 lamps, tyres first class, bargain, £135. Rey, 378 Euston Rd., N.W. Trade 185-72

MORRIS-OXFORD, quick deliveries, free tuition, etc., wholesale and retail agents for Surrey and parts of Sussex and Hants., The Haslemere Motor Co., Ld., Haslemere. 'Phone, 43. Trade 222-981

MORRIS-OXFORD, overhauled, repainted, new standard body fitted, alse van body to fit, 5 wheels, 5 lamps, bargain, £150. Reper and Wreaks, 112Arundel St., Sheffield. Trade zzz-923

MORRIS-OXFORD, 1915, model de luxe, dickey seat, sheek absorbers, dissolved acetylene lighting system, speedometer, air, gas, and magneto controls, valances, etc., only done 6000 miles, £195. Roper and Wreaks, 112 Arundel St., Skefhald. Trade zzz-924

MORRIS-OXFORD de luxe, 10hp, late 1914, painted green, blask wings, 5 lamps, 5 Sankey detachable wheels, speedometer, petrol can carrier, dickey seat, good tyres, mechanically perfect, fully scuipped, bargain, £185, Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telepkene, 3426 Mayfair.

MORRIS-OXFORD chassis, 5 detachable wheels and tyres, lassps, ctc., to include 2-seater body to order, £170. Colmore Depot, 49 John Bright St., Birmingham. Trade 184-221

MORRIS-OXFORD, 1914, model de luxe, Lucas dynamo lighting set, mile-age about 4000, in perfect order, enly wants seeing, £185. B. Byford, Newport, Essex. 184-8424

MORRIS-OXFORD, 1915, de luxe, with special coups-cabrielet body, seat-ing 3 inside, Lucas dynamo lighting set, 6 lamps, speedometer, clock, petrol gauge, Rowden air inlet, steel-studded and 5 groeved Dunlops, engine pulls magnificently, tip-top order throughout, £265. A. W. Brittain, Orient Lodge, Buxton. 184-a473

MORRIS-OXFORD, late 1913, hood, screen, 5 lamps, 5 detachable wheels, speedometer, just repainted and overhauled, bargain, £125. Mason, 38 Glazbury Rd., West Kensington, London, W. 194-4472 MORRIS-OXFORD, 1914, 10hp, thoroughly overhauled and repainted, prac-tically new condition, £150. Percy and C., 337 Euston Rd., London. Trade 184-256

PERRY cars. Sole London and District Agents. Cars and Mctor Sundries, Ld., 175-177 Shaftesbury Ave., London, W.C. 'Phone, 1432 Regent. Trade zzz-745

PERRYS in stock, latest 1916 8hp models, 3 speeds, complete, hood, screen, lamps, horn, 5 detachable wheels and tyres, £2 2s. tax and 40 m.p.g. P. J. Evans, John Bright St., Birmingham. Trade 184-912

PERRYS, 1916, 8hp models, 2-4-seaters and coupes, earliest deliveries, ex-changes entertained. R. Bamber and Co., Ld., 33 Liverpool Rd., South-port. Trado 188-116

PREMIER, 7-9, 2-seater light car, hood, screen, lamps and horn, good climber, £67 10s., or exchange. Motor Exchange, 68 Horton St., Waliax. Trade 184-94

Trade 184-944 PRINCESS car, 4-cylinder, 3-speeds and reverse gear, electric light and self-starter, 2-seated body, hood, screen, lamps, speedometer, run 1800 miles only and as new, £100, guaranteed faultless. Wallace Batshelor, Clarence St., Kingston-on-Thames. Trade 184-8448

Clarence St., Kingston-on-Thames. Trade 184-a448 RILEY light car, 2-seater, with electric lamps, only used 50 miles, bargain, E105, any trial. Timberlake's Garage, Wigan. Trade 186-78 RITZ, 190, 4-cylinder, 2-seater, £145, all on; best value obtainable, liberal exchanges. Motories, 68 Horton St., Halifax. RITZ, 1915, 100p, 4-cylinder, 2-seater, dynamo lighting, hood, screen. lowns, scarcely soiled, £100. Murray, 37a Charles St., Hatton Garden, Ho Script ROLLO, 8hp J.A.P. engine, variable gear, chain-cum-belt drive, scata (side by side), tyre good, all accessories, £29 10s. Collier, Deal St., HalifaY. Trade 184-945

BARGAINS in second-hand light cars and cyclecars are offered in these pages.

### LIGHT CARS AND CYCLECARS FOR SALE (continued).

(Continuea). SAXON, prompt delivery, 1916 models. Obtainable from the Picneer Agents, Western Motor Works, Chislehurst, Kont. Phone, Sidcup 160. Trade 192-e89 SAXON, 11.9, brand new 1916 rodel, slightly shop-soiled, overstockd, accept ±140. Roper and Wreaks, 112 Arundel Street, Sheffield. Trade zz-2925 SAXON cars. Although the tax is doubled, the Saxon tax is now only ±6 6s. Petrol 40 m.p.g. Plenty of latest 1916 models for instant delivery. All spare parts stocked. We usually have demonstration Saxons of latest type at bargain prices. Lowe and Wood, Ld., 280 Broad St., Birmingham. Trade 191-0197 SAXON new 1916 model in stock, painted cream and black, complete with

Trade 191-0197 SAXON new 1916 model in stock, painted cream and black, complete with magneto, £150. Tuke and Bell, Ld., Motor Department, Carlton Engineer-ing Works, High Rd., Tottenham, N. Trade 184-262

SAXON, 11.1hp, late 1915, been very little used, most economical running, magneto ignituon, standard colour, any trial or expert examination in-vited, sacrifice £100, cash wanted. 32 St. Michael's Sg., Gloucester. 184-a441

SAXON. Introductory bargain sale. To introduce my new premises to you, I am offering bargains, on cash, exchange, or deforted terms. See my "Miscellancous" advertisement, also notice new address. Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 177 Gt. Portland St., London, W. Tel., "Womanish, London." Phone, Maylair 2839.

SINGER, phaeton or coupe, 1916 models, dynamo lighting, prompt delivery, London Depot, 17 Holborn Viaduct, London, E.C. Trade zzz-39

SINGER, 1916, standard model, lighting set, fully complete, practically as new, very little used, owner buying coupe, first nearest cheque to £245 secures. Castle Motor Co., Kidderminster. Tel., 226. Trade zzz-390

SINGER, 1916, 10hp., brand new. We have 2 cars in stock, both with dynamo lighting, one with dickey seat, immediate delivery, reasonable prices. Layton's Garage, Bicester, near Oxford. 'Phone 35. Trade 189-782

SINGERS, new season's, dynamo lighting, fully equipped, delivery from stock, £250; unequalled allowance for your car. Stretton and Smith. 23 Woolstock St., Bond St., W. Trade 185-91

SINGER, 1916, 10hp, 2-seater, dynamo lighting, in stock. Palmer, 202 Gt. Portland St., W. 'Phone, Mayfair 4942. Trade 195-82

SINGER, 1915, dynamo, dickey seat, speedometer and many extras, finished brass, first-class order, tyres nearly new, £205. H. Ingle, Griffith St., Rushden, Northants. 184-a116

SINCER, 1915, 10hp, 2-seater and dickey, hood, windscreen, 5 detachable wheels, dynamo lighting set, Klaxon and bulb horn, speedometer and all accessories, little used, excellent condition throughout, price £225. R. Bamber and Co., Ld., 33 Liverpool Rd., Southport. Trade 165-118

SINGER, 1916, 2-scater, dynamo lighting, dickey, speedometer, Klaxon and bulb horns, only run 2000 miles, perfect, £240. Below. clock.

**SINGER**, 1914, 2-seater, dynamo lighting, speedometer, recently repainted and thoroughly overhauled, £185. Smith and Hunter, 15 Little Portland St., Oxford Circus.

SINGER, 1916, 10hp, dynamo lighting set, dickey seat, hood, screen, de-tachable wheels and spare, speedometer, actually in stock. Julian's, Sin-ger Specialists, Broad SE., Reading. "Phone, 1024. Trade zzz-204 SINGER, 1916 model, 10hp, brand new, in stock for immediate delivery.

SINGER, 1915-16, 2-seater, with dynamo lighting, dickey seat, etc., in per-fect condition, £235. Below.

SINGER, 1913 model, 2-seater, with dynamo lighting and fully equipped, in very nice order, £135. The Light Car Co., 331 Euston Rd., London, N.W. 'Phone, Museum 3143. Trade 184-245

SINGER, 1916, 2-seater, as new, dynamo lighting. Storey's, 118 Gt. Port-land St., W. Trade 184-231

SINGER, 1913. all accessories, good condition throughout, £130. Hayes, 344 Euston Rd. Museum 3541. Trade 184-208

SINGER 1916 coupe, brand new, dynamo lighting, upholstered Bedford cord, finished blue, 5 grooved Dunlops, just delivered, available imme-diately, price £310. Particulars, English Light Car Specialists, Robinson's Garage, Green St., Cambridge. Telephone, 388. Telegrams, "Cars." Trade 184-216

SINGERS, new season's, dynamo lighting, fully equipped, delivery from stock, special prices, unequalled allowance for your present car. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 184-250

SINGER, 1915, dynamo lighting, speedometer; this car is practically un soiled, perfect throughout, £230. Below.

SINGER, 1914, dynamo lighting, spare wheel, etc., just repainted, hargain, £165. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 184-251 SINGER, 10hp, 1913, fitted with 1914 back axle, splendid condition, just been thoroughly overhauled, speedometer, electric side lamps, tyres and spare nearly new, many extras, going away, £135. R., Elm House, Chai-ham. 184 a460

SINGER. 10hp. 2-seater, dynamo lighting, in stock. Alfred Wastnage. 65 Gt. Portland St., W. Mayfair 3005. Trade 184-162 SINGER, 1915, 10hp. special speed model, detachable wheels and spare, plated fittings, recently repainted and upholstered, and thoroughly over-hauled, £235. Maudes', 100 Gt. Portland St., London, W. Trade 184-167 SINGER, 1915, 10hp, dvnamo lighting, speedometer, extra-air valve, electric and bulb horns, special flap to hood, car in splendid condition, £220. Below.

SINGER, 1914, 10hp, dynamo lighting, speedometer. dickey scat, cloctric and bulb horns, mirror, all tyres as new, £175. G. L. Francis and Co., 22 Panton St., Leicester Sq. Trade 184-181

SINCER. See "Cars Wanted." Alfred Goad. 'Trade 184-a497

SINGER, 1913, 1915 gearbox and back axle, recently overhauled, 5 detach-able wheels, petrol carrier, acetylene head, oil side and rear, spare tube and valve, jack, pump, full kit tools, painted green, smart car, good condition, officer owner, going abroad, £150 or near offer. Hilliwell, Beechwood, Ovenden, Halifax.

SINGER, 1915, almost new, owned by professional man, £215. Jesson, [1\_Jyndhurst Gardens, Finchley. Hornsey 573. 184:a505 SINGER, 1914, November, 10ho, dynamo lighting, spare wheel, just re-painted and overhauled, condition guaranteed perfect, £175. Elce and Co., 15-16 Bishopsgate Avenue, Camomile St., E.C. 'Phone, Avenue 5548. Trade 184:266

### LIGHT CARS AND CYCLECARS FOR SALE (continued).

STANDARD 1914 light car, £185. R. E. Jones (Garages), Ld., Swansea, Cash or easy terms. Trade zzz-103

STANDARD, 1914 model, dickey seat, speedometer and full equipment, guaranteed £180. Service Co., 292 High Holborn, London. Trade zzz-377 STANDARD, 9.5hp, 1914, late coupe, dickey, C.A.V. lighting and many extras, smart little car, in splendid order. Storey's.

STANDARD, 1916, 9.5, coupe, dickey, new, painted grey, in stock. Storey's, 118 Gt. Portland St., W. Trade 184/225

**STANDARD**, 9.5hp, late 1914, wide 2-seated body, painted grey, chocolate line, 5 lamps, generator, 5 Sankey detachable wheels, good tyres, speedo-meter, dickey seat, special dash and screen, tools, etc., splendid condition throughout, bargain, £185. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair.

STANDARD, late 1915, spare wheel, 5 lamps, dickey, speedometer, etc., car just revarnished, very fine condition throughout, £200. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 184-253

STANDARD, 1915, as new, done under 1200 miles, 5 Sankey, grooved Dun-lops (unpunctured), Brolt 12-volt lighting set, speedometer, clock, step mat, electric and mechanical horns, aluminium number-plates, maker's number 11,747, £225, no offers. Everett, 3 Sigismund Rd., Norwich 194-a452

STELLITE, good order, spare wheel, dickey seat, all accessories, £1:0. Summers, 28 Cheapside, London. 184-a454

Swiff, 1914, 7-9hp, 2-cylinder, 2-seater, hood, screen, 3 lamps, shok ab-sorbers, just repainted, excellent order, £125, 3 months guarantee, 12 months insurance free, tuition free, exchanges, deferred terms 5 per cent. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W., Museum 623.

SWIFT, 7-9hp, late 1914, painted slate grey, black wings, acetylene lamps, generator, Skewart speedometer, extra air, oversize tyres, as new, wire wheels, mirror, mechanically perfect, fully equipped, bargain, £120. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 184-240

SWIFT cyclecars, £65 to £125; several in stock. Percy and Co., 337 Euston Rd., London: 184-260

SWIFT, 7-9hp, 2-cylinder, 1914, perfect condition, 4 new rubber-studded Dunlop covers, new steel-studded Stepney, 3 acetyrene lamps, oil tail larry, speedometer, hood, screen, tools complete, £110. Raymond, Wallis Rd., Basingstoke. 1844a4.8

Swiff. Introductory bargain sale. To introduce my new premises to you, I am offering bargains. on cash, exchange, or deferred terrs. See my "Miscellaneons" advertisement, also notice new address. Marian G. Parige, the only Lady Motor Dealer (12 years practical experience), 177 Gt. Portland St., London, W. Tel., "Womanish, London." Phone, Maylair 2839. Trade 134-161

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**NOTICE.** Owing to postal delays and irregularities, it is advisable to post advertisements <u>EARLY ON TUESDAYS</u> so as to ensure, as far as possible, that they reach us by the FIRST POST on Wednesdays. Lately several advertisements have been received too late for inclusion, although despatched on Tuesdays.

WARNE, 9hp, late 1913 model, a new car, only used for demonstration purposes, hood and screen, 3 speeds and roverse, Stepney, 5 lamps, dash-board clock, speedometer, £85, a bargain. Maudes', 100 Gt. Portland >t., London, W.

WHITING-GRANTS in stock. cash or easy terms. R. E. Jones (Garages), Ld., Swansca, London, Cardifi. Trade zzz-919

WHITING-GRANT. Introductory bargain sale. To introduce my new premises to you, I am offering bargains on cash, exchange or deferred terms. See my "Miscellaneous" advert. also notice new address, Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 177 (Gt. Portland St., London, W. Tel., "Womanish, London." Phone, May-fair 2839. Trade 184-153

WILLIAMSON, the Rolls-Royce of 3-wheeters, Shp water-cooled Douglas engine and gearbox, £126; or exchange. Motories, 68 Horton St., Haliax, Trade 184-46

### PARCELCARS,

A.C. box carrier, hood, screen, lamps, etc., £50, for immediate service. Alfred Wastnage, 65 Gt. Portland St., W. Trade 185-752

10.n ENFIELD light delivery van, equal to new, done 3000 miles, excellent condition, tyres good, speedometer. lamps, horn, and tools, spare whet and tyre (new), been very carefully diven, cost 2185, what offers? not large enough for present owner. Bartlam, 12 Fleet St., Torquay. 184-a423

### MISCELLANEOUS LIGHT CARS AND CYCLECARS.

BRIGHTON. Perry, Morgan, and other small cars. Turpin's, 22 and 29 Preston Rd. Trade 204-m843

IF you are in want of a good light car, you cannot do better than pay a visit to the showrooms of F. Mcbes and Sons (Est. 1893), who hold one of the largest stocks in London; cars-from £50 to £250. 156 Gt. Port-land St., W. Telephone, 3426 Mayfair. Trade 184-234

land St., W. Telephone, 3426 Maytair. Trade 194-234 GASS'S MOTOR MART, at the time of going to press, have the follow-ing light cars actually in stock :--Enfeld 1915 D.L.O., 2175; Swiit, 1914, 2-cylinder, £125; Morgan, G.P., 1915, £117 195; Morgan, G.P., 1915, £112 195; G.W.K. 1913.4, £105; G.W.K., 1913, £105; G.W. K., 1913, £65; All above cars overhauled, repainted, guaranteed 3 months, 12 months insurance free, tuition free, exchanges, no combinations, deferred terms 5 per cent., trials free. For full particulars of above cars see small advertisements. If you do not see what you require, call, 'phone, wire or write, same may have ar-rived after poing to press, as you observe our stock is always changing. If you are in want of a light car, it will pay you to inspect our stock of guat anteed light cars before going elsewhere. You will not regret doing so. Re member, we are always willing to purchase or exchange first-class light car as per our "Wanted" advertisement, do will personally call an inspect your car within 150 miles. Above cars can be seen and tried at or only address, 5 Warren St., Euston Rd., W. Museum 623. Trade 184-26

PRIVATE OWNER AND TRADER alike recognise the value of these pages for the disposal of their goods.

### MISCELLANEOUS LIGHT CARS AND CYCLECARS (continued).

LONDON'S light car and cyclecar exparts. If you are considering pur-chase of a light car or cyclecar, call and see us; we guarantee satisfaction; exchanges arranged. Percy and Co., 37 Euston Rd., London. Trade zzz-453 chase of a light car or cyclecar, call and see us; we guarantee satisfaction; exchanges arranged. Percy and Co., 37 Euston Rd., London. Trade zzz-453 LIGHT cars. Youth is a prey to illusions and manhood to disappoint-ments. Deal with me and you will have no disappointment. Light cars. At the time of going to press I have, at new address, the following light cars in stock:--Morgan de luxe, late 1914, absolutely tip-top car, 482 10s; Saxon, 1915, in fine running order, worth considering at £105; Crescent, friction drive, newly painted, a really useful little bus, in sound condition, 475; G.W.Ks, 1913; I have two of these, newly-painted, and in very good running order, £85 and £89; Lagonda coupe, late 1915, absolutely fine condition in all parts, a great bargain at £145; Whiting-Grant coupe, electric light, electric starter, in good condition and running order, £169; wrift, -2, late 1915, is jon condition, full of extras, £165; Clathorpe, 1914; condition as new, full of extras, £160; Carden, 1915, as new, cost with extras £116, a bargain, £60, perfect running order; Alldays, 2-cylinder, 1913, some car at £89; also many other cars always coming in for sale. I selvertisements to officers under deforred payments. I shall be pleased to show my stock, and consider spot cash offics. Write, wire, 'phone or call, Marian G. Faige, the only Lady Motor Dealer (12 years practical experi-ence), 177 Gt. Portland St. (Note new address.) Tei, "Womanish, Lon-don." Thone, Mayfair 239. Trade 184-194 PERCY and Co., 337 Euston Rd., have the largest stock of second-hand

PERCY and Co., 337 Euston Rd., have the largest stock of second-hand cyclecars in London, all makes, all prices from £30 to £280; exchanges arranged. Trade 184-259

### MISCELLANEOUS.

ACCUMULATORS. Over 100 sizes always in stock. The cheapest and best house in the trade for reliable accumulators for car lighting, ignition, etc.; stock of slightly shop-soiled accumulators at greatly-reduced prices. The Essex Accumulator Co., 497-499 Grove Green Rd., Leytonstone, Lon-don, N.E. Trade zzz-505

LIGHT-CAR manufacturers and dealers requiring cheap bat well-made and reliable sets of torpedo electric lamps of British manufacture should communicate with the Essex Accumulator Co., 197, 499 Grove Green Rd., Leytonstone, London. Trade zzz-183

AL, Leyonsone, London ALUMINIUM number plates, best quality, any number, raised letters, very handsome, 9s. 6d. per pair. Freeman, Oakes, Devonshire St., Sheffield. Trade zzz-805

**CYGLECAR** components: Channel steel reinforced wood Irames, with quarter-elliptic springs, £4 5s. 3d.; countershalts, friction sets, axles, wheels. Denby and Co., Ld., Ilkley. Trade zzz-936

quarter-elliptic springs, £4 5s. 3d.; countersnarts, inclustor, Trade zzz-936 wheels. Denby and Co., Ld., likley. Trade zzz-936 1T will always pay you to consult a specialist. We specialize in light cars and cyclecars exclusively, and if we should not have in stock just what you are looking for we can obtain it for you promptly. We charge you for this, of course, but only a nominal amount of 5 per cent. on the price paid, and you are sure of getting what you require at the lowest trade price plus our commission. This is far cheaper than paying what you may be asked to pay elsewhere. Give us a trial. We please ourselves by pleasing you, and your recommendation is worth something to us. The Light Car Co., 331 Euston Rd., London. "Phone, Museum 3143. Trade and condition

TYPEWRITERS, Remington 7, 75s.; Hammond, 52s. 6d.; good condition, specimen, approval. 22 Rock St., Finsbury Park, N. 119 J.A.P., 4 cylinder, air-cooled, vertical, clutch, fan, carburetter, £12 10s.; 8hp J.A.P., 2-cylinder, V air-cooled, Bosch magneto, carburetter, £15; 7.9hp Forrest, V water-cooled, carburetter, £7; all splendid order. Elephant Motor Mart, 10-18 Elephant Rd., London, S.E. Trade 184-173 **BEVEL-DRIVEN** back axle, Humberette, fitted 700 by 65 wire wheels and springs, £5 5s.; ditto front axle wheels and springs, £2 5s.; long tubular frame to suit, 25s.; 3-speed-and-reverse gearbox. cardan drive, £5 5s.; ditto 2-speed-and-reverse, £4 10s. Elophant. Below.

ditto: 2-speed-and-reverse, 24 10s. Elephant. Below. **NEW** components. Pressed-steel frame, 71t\_6 in. wheelbase, 29 ins. wide, inswept front 25 ins., fitted engine and gearbox frame, also dumbirons and spring brackets, ±3 5s.; set springs, back 3 it., front 2 it. 6 ins, by 11/2 in. wide, 27s. 6d.; 650 by 65 wire wheels, fitted spindles, 27s. 6d. pair; 700 by 65 ditto, less spindles, ball bearings, 10s. pair; 16 in. steering wheels, aluminium centres, black finish, 12s. 6d. Elephant Motor Mart, 10-18. Ele-phant Rd., London, S.E. Trade 184-174

CHASSIS, channel-steel, axles fitted, 700 by 80 artillery wheel, differential, berel drive and brakes and drums, wheels and rims new, £9 5s. lot. Pool's Garage, Beverley Rd., Hull, Yorks. Trade 184-a449

Pool's Garage, Beverley Rd., Hull, Yorks. Trade 184-a449 STEERING gear, worm segment, with universal joint, column, and 16 in. wheel, 108; 1 light three and reverse gearbox, perfect condition, 15s.; 2-speed chain countershaft, with sprockets, lever, etc., 10s.; small alu-minium radiator, 5s. Robberds, 44 Belgrave Rd., 11ford. 184-a440 GENUINE De Dion engine, 4/,bp (84 by 90), a.i.v., perfect, 3-gal, round brass petrol tank, De Dion carburctter, \$4; complete set carden axles off model G De Dion and 104-tooth spur driving wheel, 20s.; 2-speed expanding clutch gearbox, wants refloring, 49s.; 1%. cycle engine, AAT.V., \$1 or near offer for lot. Tossell, Fairfield, Stockton-on-Tees. Trade 184-a37

BRAND new 8-10 Eagle cyclecar engine, fitted starting handle, incor-porated gear drive for magneto and pump, with platform, overhead in-lets, water pump, pair each air and water-cooled cylinders, £11 10s, ex-change 5 h.p. and cash. Seen, Garage, The Cross, Sunbury. 184-4355

### ACCESSORIES.

810 by 90 STEPNEY, complete, dynamo, lamps, horn, accumulator, carbu-retter, toolbox, new sparking plugs, jack, mirror. Beardshaw, Auctioneer, Wood Green. Trade 184-a462

### AGENCIES.

WE are open to represent either manufacturers of light cars or agents having sole monopoly of same. Messrs. Green Taxis, Villiers Street Garage, Charing Cross, London. 184-g224

### EXCHANGES.

EXCHANGE. Motor-bicycles and light cars taken in part exchange for light cars, balance in cash or extended payments as preferred. Service Co., 292 Jligh Holborn, London. Trade zzz-689

IF you wish to effect an exchange of any description, consult the specialists. We please ourselves by pleasing you. The Light Car Co., 331 Fuston Rd., London. 'Phone, Museum 3143. Trade 184-243

### 29тн Мау, 1916.

### EXCHANGES (continued).

EXCHANGES arranged in light or medium cars, or for motorcycles. Col-more Depot, 49 John Bright St., Birmingham, Trade 184-223

more Depot, 49 John Bright St., Birmingham. Trade 184/223 "GOD Save the King!" To his Majesty's officers stationed in the country or on leave home from the Front. I have now made special financial arrangements whereby I can supply officers or others with light cars on special deferred payment terms, from one-fith down and balance by 12 monthly instalments, and when they are called up, or have to go back to duty, I am prepared to make propositions to either sell the car for them, buy it back, or transfer the deferred payment contract; this applies to cash deals as well. This means that they will not be burdened with the trouble of selling their car before leaving for the Front. Before entertaining ann light car deal, come and see me. I have the finest stock in London: my prices are right. Write, wire, phone or call, Marian G. Paire, the only Lady Motor Dealer, 12 years practical experience, 177 Gt. Paire, and St. (Note new address.) Tel., "Womanish, London." Phone, Maylair 223. Table 2001 the solution of the 184195

8-10 w.-c. LIGHT car, 2-cylinder, 3 and r., torpedo body, 700 by 80 wire wheels, hood, screen, lamps, fast and reliable, \$60, or will give cash for roomy 2-scater car with dickey, 10-12hp, trial by appointment only. 10 Kennedy Rd., Barking.

EXCHANGE latest model 5hp T.T. Indian, 3 speeds, clutch, delivered 3 weeks ago, ridden twice, perfect, as new, and cash for G.P. Morgan, water-cooled M.A.G., or o.h.v. J.A.P. preferred, in perfect condition throughout. 25 Upper Gray St., Edinburgh. 184-a434 FORD new 1916 5-seater, exchange for Morgan, Humberette or Douglas motorcycle, with cash. Burrows, Cudworth, Barnsley. Trade 184-a428

### EXTENDED PAYMENTS.

EXTENDED payments; all makes supplied; lowest terms. Service Co., 292 High Holborn, London. Trade zzz-688

ALBERT LAW (late motorcar manager for Wm. Whiteley, Ltd.). De-ferred payment specialist, is now the managing director of the Purley Motor Garage, Ld., Purley, Surrey. All makes of cars supplied by deferred payments, and he will be glad to advise on these matters free. Ring up 103 Purley (not a trunk call from London), or write, when you can be assured of his personal attention. Trade 189-433

INSURANCE policies. Annual premium payable monthly without extra cost; lowest rates and full insurance for light cars and cyclecars. For prospectus of Lloyd's motor policies write Manager, General Insurance Co., 199 Piccadilly, London, W.

### FOR HIRE.

IF you want to hire a Standard, Calcott, Singer or any other make light car, for a day, week-end, week, or month, call at Warren's, 386 Euston Rd. 'Phone, 3081 Museum. Trade zzz-959

**DRIVE** yourself in a Calcott, Singer, Morris-Oxford, Standard or Hillman. Rey's can let you have one for a day, week-end, week, or month; moderate charges. Rey's are the largest light car hirers in London. Call, write, or telephone (Regent 4219), Rey's, 378 Euston Rd., N.W. Trade 235-177

### HOODS AND SCREENS

HOODS for light cars, 55s.; hoods re-covered in black waterproof leatherette, 45s.; in khaki, 25s. Stockport Garage Co., 37 Wellington Rd. N., Stockport. Trade zzz-189

Rdc. N., Stockport.
 TODD and CO., Duncan St., Islington. Shop-soiled hood and screens, suitable Morgans, etc., cheap; hoods recovered. Phone, 249 North.
 Trade 185-e387
 LIGHT car hoods, 508.; windscreens, 358.; hoods recovered, trade supplied. Lang and Webb, Jackson Rd., Holloway, London. Trade 184-f226

### INSURANCE.

WHY pay your insurance premium a year in advance when you can pay monthly without extra cost? Lowest rates and full insurance for light cars and cyclecars. Annual premium payable monthly. For prospectus of Lloyd's Motor Policies, write Manager, General Insurance Co., 199 PiccadAlly, London, W. zzz-370

### REPAIRERS.

THE AZ-NU Works, 21 Risinghall St., Pentonville, N., radiator, lamp and welding specialists, American radiators a speciality. Trade zzz-817 RADIATOR and lamp repairs by skilled workmen, lowest prices, quickest delivery, no cure, no pay. Lloyd Motor Radiator Co., 377 Monument Rd., Birmingham. 187-j488

**OVERHAULS** to any make of light car. Morgan expert, official re-pairer to the Morgan Co., all parts in stock; fully-coupped workshop; experienced mechanics; best work only, moderate charges. S. Hall, Stevenage, Herts., 30 miles from London on the Great North Rd. 186-127

### SITUATIONS VACAN1

### **Defence** of the Realm Act REGULATION 8 (b).

REBULATION 8 (6). Under the above regulation, advertisements offering situations with firms whose works are situated within 30 miles of London and whose business consists wholly or mainly in engineering, ship-building, or the production of munitions of war, or of substances required for the production thereof, must contain the words :-'NO PERSON EMGAGED ON GOVERNMENT WORK OR RESIDENT MORE THAN 10 MILES DISTANT NEED APPLY.''

When the advertiser's works are situated more than 30 miles from London all applications must be made through a Labour Exchange, by means of a box number allocated by the Board of Trade. Forms of application may be obtained from any Labour Exchange, or from the offices of this paper. Each advertisement must clearly state that no person already engaged on Government work need apply.

<sup>&</sup>quot;THE LIGHT CAR AND CYCLECAR" is the best medium and has the largest circulation.

### TUITION.

THE Motor Training Institute Ld., appointed by the Royal Automobile Club store 1907. Write for free illustrated prospectus, or call and inspect our institute, 10 Heddon St., Regent St., W., or the works: 21a Loudon Rd., St. John's Wood, N.W. zzz-221

BRIGHTON. Turberville Motor School for ladics and gentlemen and their servants. Driving instruction cars, new 1915 model. Technical rooms filled with complete working chassis. Lady instructor for ladies. Prospectus free. Bath St., Seven Dials. 'Phone, 311 Brighton. 220-512 BRIGHTON. Learn to drive in comfort and safety at the Turberville Motor School, Bath St., on an up-to-date new 1915 model car. Prospectus free. 'Phone, 371 Brighton. 220-513

### TYRES AND TUBES.

ST. MARTIN'S. The cheapest house for all kinds of accessories, new and second-hand. Write for our giant list.

ST. MARTIN'S. Tyres and tubes for light cars, hundreds of bargains, new and second-hand; our prices are the lowest; write, mentioning requirements, or call.

ST. MARTIN'S. Stepney wheels from 25s.; also liners, gaiters, etc.

ST. MARTIN'S. Retreading and repairs of all descriptions.

ST. MARTIN'S. We supply all your requirements. We can buy or sell your car on commission. We can quote you for trees, lamps, lighting sets, magnetos' carburetters, etc. Call or write, St. Martin's Motor Works, 12 Upper St. Martin's Lane, London, W.C. (one minute from Leicester So., Tube). Telephone, Regent 5070. Trade zzz-196

ECONOMIC. Continental 650 by 75 and 760 by 80, very heavy rubber-studded covers, 31s. 6d.; Palmer cord heavy 3-ribbed cyclecar covers, Iully guaranteed, latest pattern, 700 by 80 50s., 710 by 85.57s. 6d.

ECONOMIC. Kempshall special oversize non-skid, 700 by 85 and 26 by 3, for 650 by 65, in stock; special allowance for old covers.

ECONOMIC for 30 by 3 and 30 by 31/2 Ford covers and tubes, in stock. Special terms to commercial users.

**ECONOMIC** for all requirements. Lamps, speedometers, etc.; quickest despatch, keenest prices; retreading and repairs; a tread for every casing. **ECONOMIC TYRE CO.**, 137 Lewisham High Rd., New Cross. 'Phone, New Cross J393. Open till 9; early closing Thursday. Trade 184-1244

### WANTED.

#### Cars.

WANTED, for cash, immediately, any makes, second-hand light cars. Rey, 378 Euston Rd. Tel., Regent 4219. Trade 211-C120 WANTED. Good second-hand or new light cars purchased for cash or taken in exchange for new cars or motorcycles. Service Co., 292 High Holborn, London. Trade zzz-253

THE Car and Tyre Mart will purchase your car for cash; distance no object; expert advice gratis. Write, 'phone or wire, 113 and 114 Long Acre, W.C. Trade zzz-732

WANTED, light cars, cyclecars, spot cash paid, bring or send. Wands-worth Motor Exchange, Ebner Street, Wandsworth (Town Station). Trade 186-824 WANTED, Morgan runabouts, fair prices given for clear purchase, or taken in part payment car or motorcycle. James Fryer, Ltd., Commercial Road, Hereford.

HUMBERETTE, Singer, Calcott, Standard, or any good make for cash. J. Phillips, 164 Elm Park Mansions, Park Walk, S.W. zzz-758 WANTED, Singer, Calcott, Standard, or other good makes of light cars, either for spot cash or exchange. R. Bamber and Co., Ld., 33 Liverpool Rd., Southport. Trade 188-115

**GENTLEMAN** requires delivery before Whitsun of new Hillman, Calcott, Singer or Morris-Cowley. Send cash quotation and delivery date to Bost No. 8208, c/o "The Light Car and Cyclecar." Trade 1850

WANTED, 1915 Hillman, Singer or Calcott. Particulars and cash price to Box No. 8209, c/o "The Light Car and Cyclecar." Trade 185-52 WANTED, Swift cyclecar or 2-seater light car, not earlier 1914, approval, under £90; £20 down, balance within 12 months. Box No. 8256, c/o "The Light Car and Cyclecar." 184-8426

LADY requires immediately for business, modern light car. Fancy-price merchants don't waste-time. 81 Wilberforce Rd., Finsbury Park, N. 184-f135

WANTED, modern light car, 2-seater, Singer, Calthorpe, Perry or similar known make, no fancy prices, no dealers, cash immediate, fullest details. Albert, 23 Market Pl., Kingston, S.W. 184-a432

SEND your light car at once (special cash price given) to Wandsworth Motor Exchange, Ebner St., Wandsworth (Town Station). Trade 184-f230 PRIVATE motorist wants a 9.5 Standard car, with dickey, late 1914 or 1915, state what fittings and accessories, lowest price, privately owned preferred. J. Chambers, Benhall, Saxmundham, Suffolk. 184-a442

G. L. FRANCIS and CO. require good light cars, not earlier than 1914, highest prices given. 22 Panton St., Leicester Sq. Trade 184-183

LAMBORN MOTORS, LD., require at once a large number of light cars of the following makes, very best prices given:-Singer, Standard, Calcott, Hillman, Morris-Oxford. 3 Elizabeth St., Victoria, S.W. 'Phone, 6111 Victoria. Trade 184-a829

WANTED, modern light car, Singer, Calcott, Calthorpe, or any good make, privately owned, cash immediately. Particulars, Box No. 8268, c'o "The Light Car and Cyclecar." Trade 184-a490

MORGAN wanted, exchange Rover 1915 sidecar combination equal new. 22 Victoria Ter., Learnington. 184-a493

WANTED, 1914 Buckingham cyclecar, water-cooled preferred, good condi-tion essential, also water-cooled cylinder for single. Dyne, 1 Barrowby Rd., Grantham. 184-a495

LADY wants light car of good make, Calcott, Singer or similar, easy to start, state lowest price, date, etc. Box No. 8269, c/o "The Light Car and Cyclecar." 184-509

ALFRED COAD is the cash buyer for all modern light cars. Write or 'phone him before selling; best prices; cars collected any distance. 64 Gloucester Rd., S.W. 'Phone, 1602 Kensington. Trade 184-a501 **PRIVATE** motorist wants modern light car for cash, state mileage. Stiff. 115 Stockwell Rd., S.W. 184-a125

### WANTED-Cors-(continued).

CASS'S MOTOR MART require to purchase A.C. Calcott, C.W.K., Hill-man, Humberette, Morgan, Morris-Oxford, Perry. Singer, Standard and Swift light cars. Mr. Cass will personally call and inspect your car free of charge, within 150 miles. 5 Warren St., Euston Rd., W. Museum C23. Irade 184-197

SWIFTS, Singers, G.W.K.s, Humberettes, and all standard makes of cars bought for cash, best possible prices given. 'Phone. Museum 3541. Hayes, 344 Euston Rd. Trade 181-209

CALCOTT, Perry, Singer and Morris-Oxford cars wanted at once for cash, or sold on commission; cars collected any distance; definite offers made by return of post. Smith and Hunter, 15 Little Portland St., Oxford Circus.

F. MEBES and SONS (Est. 1893), the original light car specialists, pay best market prices for high-class light cars. Write fullest particulars, or call with car; prompt cash. 156 Gt. Portland St., W. Telephone, 3425 Mayfair. Trade 184-233

Will any lady or gentleman who is unable to take delivery of new Cal-cott, Hillman, Singer, or Morris-Cowley, communicate with F. Mebes and Sons, the original light car specialists. They are prepared to take over the transaction immediately. 156 Gt. Portland St., W. Tel., Maytair 3478. Trade 184-232

Trade 184-232 WE specialize exclusively in light cars and cyclecars and are always open to buy any make. Offer us what you have for sale. We please our-selves by pleasing you. The Light Car Co., 331 Euston Rd., London. 'Phone, Museum 3143. Trade 184-242

LIGHT cars bought. Colmore Depot, of Birmingham, will give good cash price for good English second-hand light cars. Trade 184-224

price for good English second-hand light cars. Trade 184-224 CARS wanted. Why sell your cars to the trade? They, naturally cannot give you full value. Send them to me to be sold direct to the public. My clients pay me commission for buying. By doing this you are relieved of all trouble. You get my cheque in full as soon as the car is sold, whether I sell it for cash, exchange, or on my deferred payment terms. Cash advanced while pending sale. Also your car is insured against fire, burglary, accident and air raids whilst in my garage. Before sending the car, get into communication with me, at new address: Marian G. Paige, the only Lady Motor Dealer, 177 Gt. Portland St., 12 years practical ex perience. Tel., "Womanish, London." Phone, Maylair 2839. Trade 184-198 WANTED, 2-seater light car, 8-10hp, gennine second-hand, reputed make only, fullest particulars. Weekes, 10 High St., Old Brompton, Kent. 184-a511

STRETTON and SMITH will pay top prices for Stellites, Calcotts, Singers, Morris-Oxfords, Perrys, or any other modern cars of reputed make. 23 Woodstock St., Bond St., W. Trade 184255 WANTED, 19hp A.-C., 1914 or 1915, would not consider any other make, Box No. 8265, c/o "The Light Car and Cyclecar." 184-a512

These advertisements are now set in smaller type to meet the Government demand for economy in paper. At the same time the distinctive style of the setting makes it as easy as before to find the advertisement of any particulor make of car.

TWO or 3-seater light car or cyclecar, 1914-15, w.-c. Humberette or other good make, cheap for cash. Smith's, Engineers, Barking. 184-461 WANTED immediately, modern 2-seater, not above 4-guinca tax, must pass expert examination; no dealers. Box No. 8259,, care of "The Light Car and Cyclecar." 185-84-97

THE PYTCHLEY AUTOCAR CO., LD., are open to purchase for cash any modern and good make of light car; special price for Standard, Calcott, Singer, and Swift light cars. 216 Gt. Portland St., W. Te'ephone No., Mayfair 4535.

WANTED, light car, rot earlier than 1914, must be in really good con-dition. Mansions Motor Co., Ltd., 78 York St., Westminster, S.W. Trade 191-175 WANTED, Calcotts, Singers, Morris-Oxfords, Standards, Hillmans, Hillmans, Huberetter, G.W.K.S. for spot cash, new or second-hand, good prices. Maudes', 100 Gt. Portland St., London, W. Trade 184-164

WANTED. Rey's are buyers for cash of Calcotts, Singers, Standards, Perrys, Hillmans, and all good makes. Regent 4219. Rey's, 378 Euston Rd., N.W. Trade 196 779

WANTED. Rey's will give £225 for 1915 Calcotts, £175 for 1914, £210 for 1915 Singers, and £150 for 1914. Rey's, 378 Euston Rd., N.W. Regont 4919 Trade 195-178

### Wanted-Miscellaneous.

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**(**) On Friday, at a demonstration hill-climb under the auspices of the "Light Car," K. E. Don drove an Avon-shod "A.C." (10 h.p.) over Hard Knott and Wrynose in the Cumberland hills. Both passes had hitherto proved impregnable to light cars, gradients of 1 in  $2\frac{3}{4}$  and 1 in 3 being frequently met with, as well as extremely loose surfaces, which tried out the tyres to the utmost limit.

**U**, The "A.C." was stopped and restarted for the photographers on Hard Knott, and made a non-stop climb of Wrynose. Honister was climbed on Saturday.



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