# The Contraction of the contracti

Vol. IV. No. 102 2nd Nov. 1914 Registered at the GPO as a Newspaper

The Journal that founded the New Motoring



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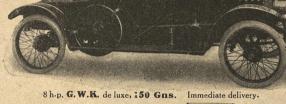
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THIS awful war has altered many things, among others the arrangements for the Olympia Motor and Motorcycle Shows. These shows are now officially Buyers of light cars and cyclecars now have two courses open to themto go round from showroom to showroom examining 1915 models in their own homes—a long and tedious job—or to

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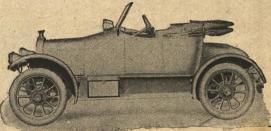
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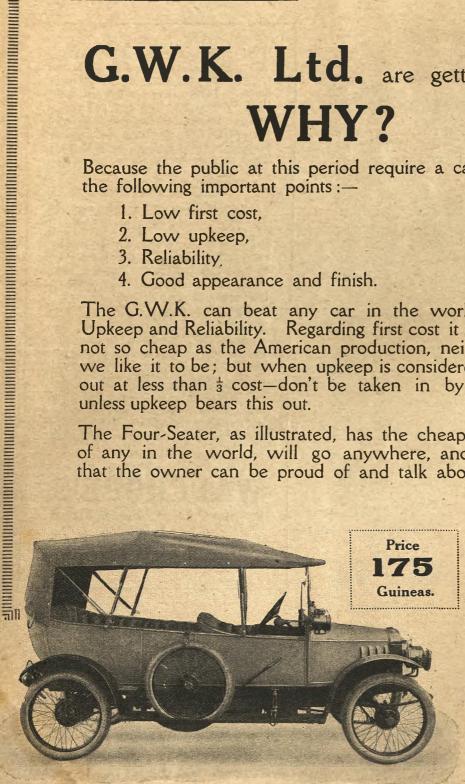
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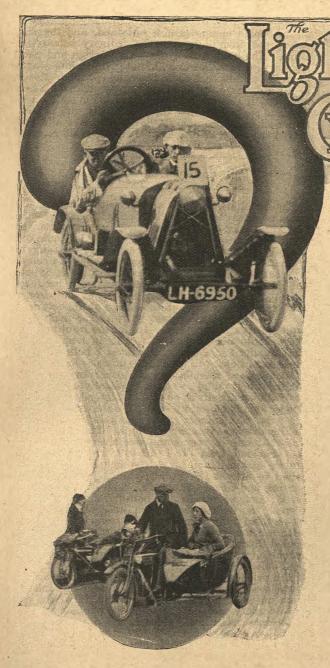
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#### EDITOR'S NOTE.

THE position of the cyclecar as apart from the light car at the present time needs careful consideration unless a wrong opinion is to be formed.

The original idea of the cyclecar was to provide something simple to drive and economical to run that would bridge the gulf between the car and motorcycle. One or two concerns have succeeded in fulfilling this ideal: others have not. The reasons for the success or failure in different types of cyclecar are discussed in the following article.

It is our opinion that there is still an excellent opening for a type of simple cyclecar, but the essentials to its development are a low first cost and the actual proving of its capabilities to the public. Deeds, not words, are what are required of successful cyclecar makers of to-day.

IS THE POPULAR CYCLECAR POSSIBLE?

Wanted, an Alternative to the Sidecar at a Low Price-Past Successes and Failures Reviewed.

THE Olympia Motorcycle Show of 1912 was by far the most interesting ever held. flocked to it in their thousands to see the new type of vehicle, known then as the cyclecar, whatever the transmission, and the motorcycle exhibits that year had, by comparison, a cold reception. So great was the interest that 100,000 copies of the first number

of THE CYCLECAR were sold.

All types of cyclecars were shown. The Rollo monocar was one. There were the three-wheeled A.-C.s and Morgans, and several other three-wheelers more luxuriously upholstered and with substantial bodies; tandem-seated cyclecars like the Super; simple belt-driven machines like the G.N. and somewhat quaint-looking machines like the Rudge; simple cyclecars with substantial bodies, like the Warne and the Duo; chain-driven machines like the L.M., the Gordon, and Premier; combinations of belt and chain like the New Hudson; the friction-driven G.W.K.; and the twin-cylinder shaft-driven cyclecars like the Perry, the Swift, and the Humberette; and the four-cylinder Singer. The latter was the first to adopt the title of light car, which term is now usually associated with small cars following car practice. They were all "cyclecars" then, and emphasis was laid upon the fact that, whatever the transmission, they must not be confused with the heavier type of car which for many years past had been termed a light car. To-day some of the newer machines are becoming almost as big and powerful as the "light cars" of yesterday.

Although this was not the beginning of the "new motoring" movement, which might be traced to such early designs as the Bedelia, the G.N., the Dew, and the Morgan, apart from the A.-C. Sociable, which was earlier than any, and to the series of articles begun in "Motor Cycling" in December, 1910, it was the first occasion that a wide selection of all types of the new vehicles, varying in price from £80 to £200, had been placed before the public

placed before the public.

Opinions differed widely as to which types would prevail. Actually, it is not a matter even now for saying that this or that type will outlast the other, for there is room for all. The agents, however, had the whip hand, and went plumb for the cars of the highest price, giving the greatest profit the productions of big manufacturers and the cyclecars following car practice. They had no faith in chain or belt drive, so those looking for a more comfortable alternative to the sidecar outfit, as simple and as cheap, have never been satisfied

### IS\_THE CYCLECAR POSSIBLE? (contd.).

A torrent of abuse was poured upon the simple machines. The belts, or the chains, would always be breaking, it was said. They were contraptions of string and ironmongery. They would not hold the road. It was impossible to steer round corners without a differential. All these statements must look rather ridiculous to their authors in the light of their greater experience, and they have been retracted as the result of the vigorous exposure in these columns, but the public interested in an alternative to the sidecar was effectually stalled off. Those who could afford the more expensive machines established that industry effectively; others who would by now have seriously weakened the popularity of the sidecar or have taken up motoring where as yet they do not motor at all, were not given a chance. To-day we are still told the simple machine is "dead," which it is not by a long way. There may be some to whom that wish is father to the thought—more's the pity—for a four whooled alternative to the circumstance. four-wheeled alternative to the sidecar, as cheap to run, but more reliable, and offering greater comfort, is undoubtedly needed before many thousands will ever take up motoring.

Is that inexpensive alternative to the sidecar outfit a possibility? We can best arrive at the answer by reviewing what has been done so far to meet the demand. The earliest designs were aimed at providing a more substantial, safer, and altogether better vehicle than the sidecar. That was certainly in the minds of Messrs. H. E. Dew, who built spidery-looking single-seaters for his own amusement; A. G. Frazer Nash and H. R. Godfrey, who produced the G.N.; and M. Bourbeau, whose creation was the tandem-seated Bedelia, all of whom were at work in 1909. Mr. Dew's machine is now known as the Victor. In its mechanical details it was cleverly designed, with two gears provided by chains, operated by pedal-actuated clutches and with final belt drive. It now has a water-cooled engine and a gearbox with a hand lever. The Victor cyclecar is made in a very wellequipped factory, and handled by business-like people.

### An Original Design.

The G.N. is a machine that from engine to back axle has been designed from an original and practical standpoint, and is not merely an adaptation of other designs. The early models had belt drive from the engine to a first countershaft, which proved a failure, and for which was substituted chain drive, and thence by chains giving two gears to a second countershaft, and by final belts to the back wheels. In later models shaft drive to the first countershaft was substituted. Early on, it was found that the air-cooled motorcycle engine, however well it behaved in a motorcycle frame, was prone to overheat and give endless trouble in a cyclecar. A more suitable engine was specially designed, with the cylinders set at 90 degrees, to overcome the vibration which is the curse of the V twin, and with the inlet valves placed above the exhaust, to afford greater cooling than the ordinary side-by-side-valved engine permits. It keeps cool although dispensing with a fan, and, further, it is placed transversely in the frame, with the exhaust ports facing the air, an arrangement which also gives accessibility. It is, however, capable of being improved in minor details, particularly in the valve-operating mechanism, and these improvements are now being or have been carried out. The racing type of G.N. engine, with inclined overhead valves, but otherwise like the standard model, is as fast as any engine of 1100 c.c. of whatever type yet produced, and, untuned, has lapped Brooklands at a speed of 72 m.p.h. in a G.N. cyclecar. Py fitting a Solex car-

buretter, slower running than is usually afforded by an air-cooled engine is now obtained, and that is a very great advantage over the ordinary sidecar ma-chine. The bodywork is of original design and pleasing lines; it errs, however, in not giving wider seating capacity, a fault that could be easily rectified. Messrs. G.N., Ltd., have certainly built up a comfortable business, but if this machine had been taken up by a big Midland concern, turned out in quantity, run in trials, and well pushed amongst the agents, it would have solved the cyclecar problem. It may yet do so.

### Faulty Belt-drive.

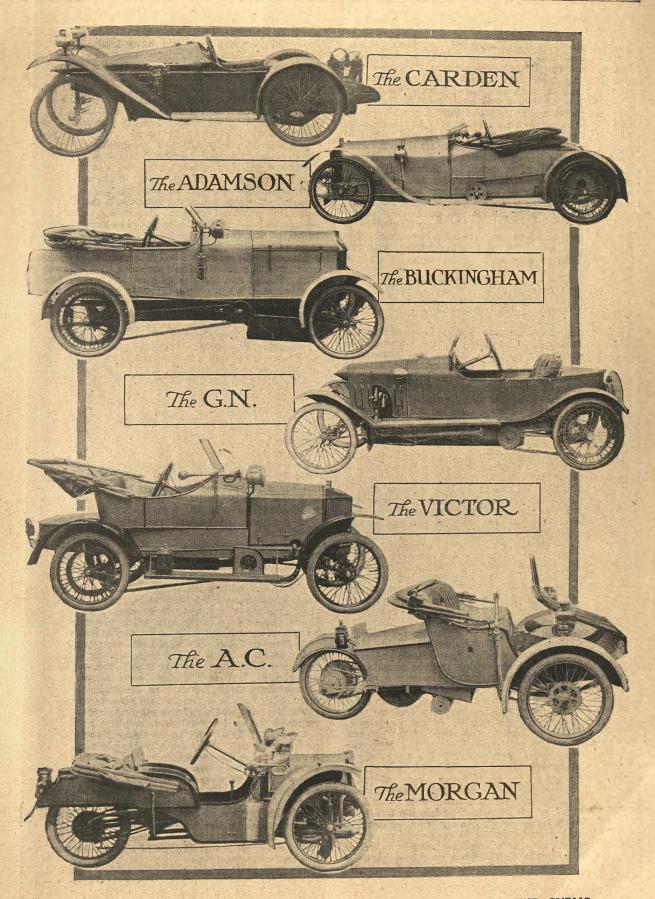
The Bedelia was by far and away the most original machine, with tandem seating and belt drive, but alas, this latter item was badly carried out, inasmuch that the belts had to be lifted from one set of pulleys to the other by hand to change gear, which was carrying simplicity a little too far. Several people associated with the Bedelia saw the folly of this, and the Sabella, the Duo, and the Warne cyclecars were produced, which overcame this objection. Again, however, a fatal mistake was made in the design of the belt drive. Belts, to be effective, must be run over fairly large pulleys (8 ins. is a minimum size for the front pulleys); they should not be less than 8 ft. in length, and a good quality 1 in. rubber and canvas V belt, run under these conditions, will give 10,000 miles or more. In the tandem-seated Sabella and the other two machines, the front belt pulleys were mechanically expanded, so as to allow the belts to bottom and afford a free engine and gradually closed up to engage the drive and raise the gear. An infinitely variable gear was provided, making driving exceedingly simple. The disadvantage was that only a very small effective range of gears was provided, from 4 to 1 to 7 to 1, by a system which unduly strained and wore the belts. The Sabella failed to attract the public, chiefly because tandem seating had never caught on. The Duo became the de P., and, so far as the belt-driven model is concerned, the final drive is now, as it should be, over large, fixed pulleys, intermediate gears being provided with a conventional type of gearbox. With a watercooled Blumfield engine, it is a thoroughly satisfactory machine, and, provided, as it is, with a comfortable, well-upholstered body, it should command a fair sale if the price asked is not too high for those who want a cyclecar. And that, again, is a serious point that does not seem to have been realized, for if the price considerably exceeds £100, only the public more likely to be interested in a light car, and not so concerned with low running costs, is attracted. The Warne is now a light car with shaft drive. Both this machine and the Duo passed through an intermediate stage with a secondary gear, giving two ranges of gears on the variable pulleys, a device that was satisfactory in some measure but cumbersome, while reducing the

necessary simplicity of handling.

The A.-C. Sociable existed before any of the cyclecars enumerated, and as the cheapest and simplest runabout, is deservedly popular. Its reputation was largely made by its success in many competitions, particularly when it was driven by Mr. G. N. Higgs, one of the pioneers of the movement. It has not the speed of the 8 h.p. sidecar, but it certainly is a better proposition than the 3½ h.p. sidecar combination, priced, as it is, at only £75, having a fair turn of speed and

seating three if desired.

The Morgan, another three-wheeler, made its appearance about 1911, and is by far and away the most successful of all the cyclecars. Although the output is rapidly approaching 1000 a year, it was, up to the outbreak of war, far exceeded by the demand, which only shows what can be done where a concern has not the advantage of the sales organization of



CYCLECARS OF A SIMPLE NATURE THAT HAVE BEEN PROVED TO THE PUBLIC.

### IS THE CYCLECAR POSSIBLE? (contd.).

the big motorcycle manufacturers. Its price (of the simplest model), £85, brings it well within the reach of those who can only afford a sidecar outfit; it is the fastest thing on three wheels on the road-indeed the racing model, with an M.A.G. air-cooled engine, has done 78 m.p.h.—and it is economical to run while simple to handle. The engine problem was solved by placing the power unit in the front of the chassis, where it is bound to keep cool. Its success is due in the first place to the soundness of design, and, secondly, to the persistent manner in which it was entered for trial after trial, establishing beyond doubt its speed, hill-climbing powers and reliability. Last year a number of big concerns seriously contemplated producing a cyclecar on Morgan lines, but were deterred by a fear that the public are prejudiced against three-wheelers. If that prejudice is ever sufficient to affect its popularity we believe the Morgan will blossom out as a four-wheeler, with the same simplicity of design.

### ..... 80 m.p.h. .....

Of later machines, reference must be made to the Buckingham, which is provided with a water-cooled 90-degree engine of original design and enormous power. The latest racing type is credited with 80 m.p.h. Again, we have an excellent belt-driven machine, the sales of which have been retarded by slowness of production. Like the Ford, it has pedal-operated gears, with which system we are not greatly in love, although it has advantages. We believe that the Buckingham would be more popular were the conventional hand-changing adopted, but it also requires to be constantly driven in competitions, and the output must be increased to meet the demand created if ever it is to become as popular as the Morgan, for instance, and there is no reason why it should not be, although the price is on the high side.

The Adamson is the most luxurious of all the belt-

driven cyclecars, with a water-cooled twin engine and a conventional gearbox, perfectly sprung, with an underslung chassis and luxurious upholstering. Unfortunately, one cannot provide a cyclecar with a finish equal to any light car at the price of a sidecar outfit, but its sales have been restricted in the past by slowness of production, and there is no reason why this machine should not be exceedingly popular, especially as it has satisfied the somewhat fastidious demands of so eminent an authority as Dr. Low.

A cyclecar of an altogether different type is the Carden, a low-built, torpedo-bodied lightweight monocar, designed to provide a four-wheeled alternative to the motor-bicycle, which it does excellently. Nothing could be simpler in design, the engine, placed in the rear, driving the back axle by a short commendation.

Of several other machines, none of which come within what is generally understood as a cyclecar now, and yet not quite a light car, we do not propose to discuss, for they go beyond the range of the alternative to a sidecar in price, the limit of which, in our opinion, ought to be £100, which is the figure asked for the most luminously equipped passenger motors. for the most luxuriously equipped passenger motorcycle. There have also been many other cyclecars, some that have been badly handled, others cursed by the unsuitable motorcycle engine when boxed up under a bonnet, or again, adopting friction and beltdrive in combination. In this latter form we get two flexible types of transmission in combination, which is unnecessary, and a very small belt pulley, which is undesirable. Simple shaft-driven machines like the Humberette are really cyclecars, and are deservedly popular, but these do not exactly fill the bill as fourwheeled passenger motorcycles.

En passant, we would like to say that the comparative failure of the simple cyclecar in America does not surprise us. We have frequently drawn attention to the ridiculous machines produced. America has gone at it in too much of a hurry, without knowledge or first-hand information on features that have proved sound in design. The result is that Americans have arrived at the £100 light car and

missed the ideal and still cheaper cyclecar.

Now we shall be asked what we consider to be the ideal type of cyclecar to meet the demand of those who can only afford a moderate outlay, who require simplicity of handling and economical running, and yet do not want a motorcycle. Can a machine following car practice give these advantages? The £100 light car is quite a possibility of the near future, but there are some important considerations why for practical reasons it cannot afford such economical running, although it will probably prove to be, at any rate for the present, the more popular type of machine, prejudice being what it is.

These considerations involve repairs and mainten-

ance, and the simpler the transmission the lower the cost. We all run the risk of a mishap at one time or another, and when a simple, yet satisfactory type of steering involves an outlay of less than one-fourth the amount that would have to be expended on a light car if the front axle were broken, it is a very important matter. The absence of a differential, which is quite suitably accommodated by double belt drive, removes a lot of unsprung weight and simplifies maintenance in a very notable way. A flexible drive, again, increases the life of tyres.

### A Specification.

We believe that what is wanted is a machine

answering to the following description:—
1.—Price £80 to £100. If a light car can be turned out for £100 there is absolutely no reason whatever why the simpler units of a cyclecar could not be assembled and sold for less.

2.—Engine. Air-cooling is desirable, bearing in mind that a water-cooled car necessitates housing in a substantial heated garage, and this increases the cost of maintenance. The simpler the engine the better, for it will have to be looked after by the driver himself if economy so dictates. More attention ought to be paid to the design of a two-stroke, horizontally-opposed air-cooled twin, which would give the flexibility of a four-cylinder engine, failing which the 90-degree type is the best yet produced. It must

be well silenced and without tappet noises.
3.—Transmission. By final belts over not less than s in front pulleys, and intermediately by chains, operated by sliding dogs, or shaft and gearbox. If substantial "silent" chains were adopted in the intermediate stage, better still, for while the replacement of a belt is a simple and cleanly operation, a chain is a horrible thing to repair on the road. Hence, exposed chains for final drive are not good.

4.—Body. This must be as harmoniously designed as for a big car. Because a man only pays £100 for a small car, it does not follow that he will accept an ugly body that looks a makeshift. Sidecar bodies are a long way ahead of cyclecar design in this respect, and are better sprung. The body should have a side door, and be wide enough to seat three at a pinch side by side. or have a dickey seat. Three seats are essential to the average sidecarist, even if the third passenger has to be accommodated on the carrier. A simple and neat type of windscreen and hood are desirable features. are desirable features.

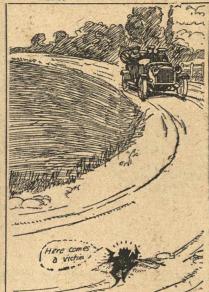
We believe that the type of machine specified can be produced. Who will be the first to go for the great market that it would create?



## The Musings of a Shock.



After





O you know me? I am the SHOCK that causes most of the motorist's troubles. Nothing can beat me for damage—Lam absolutely unique in the destructive line. How I revel in waiting on a nice piece of lumpy road, or nestling into a crevice to wait for my victims. Then, when the first light car comes along, up I jump, through the tyres into the car, seeking out the vital parts and playing havoc with the machinery. And don't I just laugh as I gradually wear away the expensive tyres. There is nothing that does me so much good, and the car so much harm, as one of my special nerve-racking jerks. We SHOCKS don't work singly. Oh dear no! We spread out all along the road, hiding behind every stone and creeping into every crevice to await the attack. "The more the merrier"—you ask the poor motorist! But even we SHOCKS have our troubles. We may have just spread ourselves along a nice, rough road, when up comes a car fitted with the J.M. SHOCK ABSORBER. We need not dwell on this painful subject. It is not pleasant to be snapped up one after the other, all along the road, and spirited away into the two little cases at the back of the car to quietly expire. Not to get even a look at the machinery or tyres, not to be able to muster up one single, devastating jerk. What a come down! Candidly, I am not the SHOCK I used to be. I don't get everything my own way now. So many cars are adopting the J.M. that life is getting pretty hard. It is not much fun, after waiting for hours on a tempting stone, to be flashed up into the J.M. of the first car that comes along. But cheer up! All cars are not fitted with the J.M. SHOCK ABSORBER. There are hundreds and hundreds of cars that still fall easy victims to our jerking, and bumping, and grinding. True, they will all come round eventually to the J.M .- but what a harvest of destruction in the meantime. Nil Desperandum.



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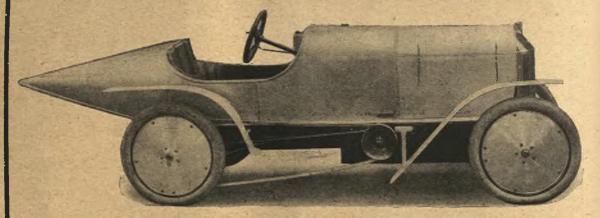


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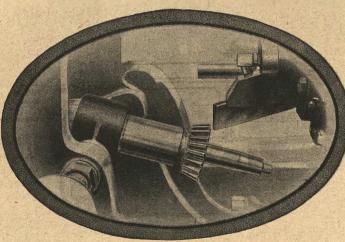
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### THE TREND OF 1915 DESIGN.

Better Value—Larger Tyres—Four-cylinder Engines Almost Universal—Electric.
Starters and Lighting Outfits—Better Bodywork and Upholstery.

A T the end of the motoring season it is always interesting to look back and see where the last season's models have shown room for imprevement. What has been most consistently demanded by the motoring public during the last year? There can be no doubt that additional comfort and luxury supplies the answer to this question, and, to take a concrete example, the demand for self-starters may be mentioned.

Reliability has now been well proven, at least by all the well-known makers, but even the best light cars have shown themselves inferior to their big brothers as regards comfort. If springing is considered, one is forced to admit that on the majority of light cars it stands in need of improvement, and on the 1915 models it is safe to say that this will have received attention.

it is safe to say that this will have received attention. It is frequently stated that it is impossible to make a well-sprung car that is really light, but one or two of

although some of the best light cars are little behind their biggest and most expensive rivals in this matter.

Another fitting for which there is a great demand is a lighting and starting set, for the convenience of being able to start the engine by merely pressing a button has a charm for all but the driver of an ultrasporting model. In cases where the combined starting and lighting set is too expensive, a satisfactory compromise may be had by a mechanical starter.

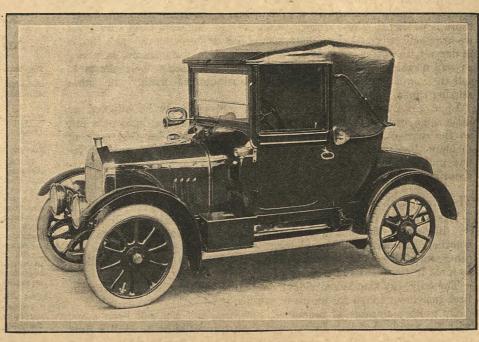
sporting model. In cases where the combined starting and lighting set is too expensive, a satisfactory compromise may be had by a mechanical starter.

All these points are small, but radical alterations will not be many. In the majority of cases, the largest alteration is the fitting of a four-cylinder engine in place of a two-cylinder. Other mechanical improvements will be found in the slight strengthening of some parts, such as back axles, the provision of variable ignition, and the fitting of hand control to the throttle.

Accessibility has been carefully studied on some

The 1915 model fourcylinder Swift coupe, listed at £255.

THE STATE OF THE PARTY OF THE P



the best-sprung cars are far from being the heaviest. It would appear that long cantilever semi-elliptic springs, with the weight carried well inside the wheelbase, offer the best solution to this problem.

Closely allied to the springing, as regards comfort, is stability on the road, and, indeed, the two are closely connected together. There is undoubtedly a tendency on the part of some makers to widen the track and increase the wheelbase, and while this is likely to increase the weight slightly, the comfort and stability will be improved. Several light cars will be found to have longer wheelbases for 1915.

Large wheels and tyres are also comfort givers, and it is now well known that large tyres are more economical in the long run. The favourite size of tyre for 1915 will probably be 700 mm. by 80 mm., but, in some cases, tyres with an 85 mm. section will be fitted.

Better upholstery is figuring in the new specifications of many well-known cars, and this, again, is a concession to the demand for comfort. It will be accompanied by better coachwork in many cases, 1915 models, and large oil fillers, which can easily be reached with a tin of oil, will be found on many engines.

Cooling, too, has received attention. In many cases fans have been fitted as standard, and, where necessary, larger and better-designed radiators. In extreme cases, the water jackets of the cylinders will be redesigned and given more generous dimensions. Silence is another point which many manufacturers

Silence is another point which many manufacturers are aiming at, this means a quiet exhaust and a quiet-running engine, with the minimum of noise from valve tappets and timing gear. Quieter gearboxes and back axles will be found in some cases, and the better bodywork mentioned will largely do away with squeaks from the woodwork.

One source of noise which is difficult to deal with is the petrol tank, and, however well this is stayed, it seems impossible to stop it drumming.

Thus, for 1915, we may expect more comfort, as exemplified by better springing and self-starters, better finish and cooling, greater accessibility and silence.

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### Topies of the Day

### A Motor Showroom Week.

THE suggestion that during the last week in November a simultaneous display of 1915 models should be held in the principal motor showrooms in London has been very favourably received, and can quite easily be carried out by a combined effort on the part of the gents themselves and the motor traders. Despite the war the motor trade in pleasure cars is by no means dead, and next year it is more than likely that the demand will be principally for light cars on account of their great economy. This being the case, it behoves all enterprising agents to interest their customers in the light car movement, and no better way of doing this could be devised than the actual display of all that is latest and best in these small machines.

From the point of view of the customer it would be much more convenient if he were enabled to see during a visit to London at least 20 or 30 different makes of the latest models in which he was interested

than to have to make several visits at different times.

It is a mistake to imagine that because we are at war the motor trade is dead, for within the last week we have heard of an Australian agency which is willing to book up a contract for 200 light cars if the right type of machine can be supplied, and again from Ireland a dealer there is willing to place a contract for several hundred light cars. As we have said over and over again, the policy of throwing up one's hands in despair, too often adopted by our Midland manufacturers, is wrong as well as unpatriotic. They should rather redouble their efforts to sell their productions and maintain "business as usual" in these stirring times.

Light car manufacturers and drivers will probably be affected as little as anyone by the war; indeed, the number of new light cars put on the market indicates the faith that people have in this type of machine, but enterprising methods are needed to push the sale of the new models. For this reason we commend the idea of the Motor Show-

room Week at the end of November.

### The Low Gear Emergency.

T I is admitted that the perfect light car should be able to climb any hill where there is a road under any condition of surface and weather, and with full complement of passengers and luggage. other words, it should be able to climb any hill that the driver is likely to meet in the course of a week's tour.

The only way that this desideratum can be obtained is by making the

first gear low enough for all eventualities.

On quite a number of machines, however, this has not been done, with the result that it is by no means an impossibility to stall a light car on a hill, not through any inefficiency on the part of the engine, but simply because the low gear is not low enough.

This is such a simple fault to overcome that it is surprising how

The adoption of a very low first gear seems to point to the wisdom of employing four gears instead of three on a light car, where such an arrangement would be of especial value owing to the comparatively small engine and heavy load.

common it is, and it is a point that should certainly be remedied.

### The Tendency for 1915.

THOSE 1915 models the details of which have been made public one and all show a tendency towards increased comfort. This is seen in many ways: by better springing and larger tyres, and also by better bodywork and upholstery.

Electric lighting sets are also becoming quite a universal fitting and the ability to light up by merely pressing a button is but another form of comfort. It would therefore appear that 1915 will be a year of luxury

in the light car world.



Mondays-1d.

Conducted by EDMUND DANGERFIELD.

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LIGHT UP Next Saturday, 5.22 p.m.

### FORTHCOMING EVENTS.

NOVEMBER.

21st-22nd, - Cyclecar Club's 1915 Model Rallies. 23rd-28th,-Motor Showroom Week. 27th-28th. Bristol Motorcycle Club's Open Trial and Show.

### NOTICES.

#### 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.

Letters relating to ADVERTISEMENT and PUBLISHING Departments should be addressed to The Manager, SURSCHE.

addressed to The Manager. SUBSCRIPTIONS should be forwarded to the Manager

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

#### Press Times.

IMPORTANT LATE NEWS and Photographs can be accepted for insertion in the following Monday's issue by special arrangement previously.

#### 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 keeping or return of contributions.

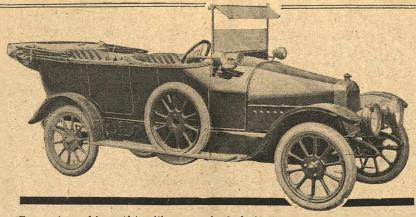
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Four-seater model, complete with one-man hood, double folding screen, 2 acetylene head lamps, 2 electric side and tail lamps, 5 Sankey wheels, 5—700  $\times$  85 Palmer cord tyres, horn, and full hit of tools, 190 GUINEAS

### Another Extension

THE wonderful success of the Calthorpe Minor has, in the short space of little more than twelve months since it was first introduced, rendered yet another extension to the Calthorpe Factory an imperative necessity. And the splendid reception which has been accorded the new 1915 models, despite the war, makes us wonder whether even greater additions than we have yet contemplated will not have to be undertaken very shortly.

The comfort, beauty, sturdy construction and silent swiftness of the Calthorpe Minor instantly appealed to motorists of discrimination and comparatively slender means in every part of the two hemispheres.

Probably no other machine in the light car class has achieved half its popularity. Certainly no other light car has demonstrated its efficiency and economy so frequently and unmistakably.

Fifty miles per hour and 45 miles per gallon of spirit are mere child's play to the Calthorpe Minor. Many drivers have succeeded in averaging over 50 miles per gallon on long non-stop runs. Tyres seem to last almost indefinitely.

Either as a two or four-seater the Calthorpe Minor is an ideal little vehicle, with power enough to take you anywhere and more speed than you dare use on the road

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### NOTES, NEWS AND GOSSIP.

### The "Emden" Sinks Two Light Cars—Back from the Antwerp Siege.

Mr. Warren-Lambert has obtained a commission in the Army Service Corps.

The new Grand Duke Michael model Calthorpe with the long wheelbase is a very smart-looking turnout.

One of the first models of the Old Mill cyclecar built near Brighton was observed on the Brighton road recently.

"Could not do this with a Rolls, if it broke down?" said a simple cyclecarist, as he pushed his machine home one night.

Motor dealers in Yorkshire are expecting a brisk trade next season as many bullion works up there are extremely busy with Government orders.

Wounded Belgian soldiers are being nursed back to health again by being taken for rides in motorcars round Brighton and Westcliff-on-Sea.

Cars which are being used by the military authorities have a hard time, and a Lagonda which was bought at the outbreak of war has never yet spent a night under cover.

The Perry four-cylinder model will go up Gorcot Hill, near Birmingham, on top, and will climb Park Hill, Moseley, Birmingham, which has a gradient of about 1 in 7 or 8, with five up on top gear. It also holds the road remarkably well.

There is a possibility of a simple cyclecar going for a long-distance trial under the observation of the A.-C.U. If more makers would take the trouble of proving their machines to the public they would soon reap the benefit of their enterprise.

Amongst the motor casualties of the war must be placed two brand new Lagonda light cars, specially fitted up with C.A.V. lighting sets, which were on the s.s. "Chilhiana," bound for Calcutta, when that vessel was sunk by the notorious German cruiser " Emden."

"I can only say that the British Navy is perfect in every detail." Such is the recently-expressed opinion of a senior naval officer of a neutral country. This is a pleasant assurance, and we therefore wish any hostile invaders joy when they try conclusions with our men in blue (not the stop-watch recorders).

Already the Cyclecar Club has been requested to reserve space for between 30 and 40 1915 model light cars and cyclecars at its Rallies on 21st and 22nd November. All motorists are invited to attend these events. They take place at Hatfield, Burford Bridge near Dorking, and Wisley Hut on the Ripley Road.

The anti-cyclecar Press, with its anxiety to stamp out the word "cyclecar," is referring to tiny 3½ h.p. American pushmobiles, three-wheelers, and beltdriven machines as light cars. If the practice spreads much further we shall find traction engines, perambulators, and wheelbarrows coming under the same heading.

Mr. H. G. Burford, a prominent member of the Cyclecar Club, has arrived lack safely on these shores. Having enlisted in the Royal Naval Volunteer Reserve, he went to Antwerp with the British force. He was among the 2000 that crossed the border into Holland, but managed to escape back. He was, perhaps, more fortunate than his comrades, as he was at the wheel of a Rolls-Royce, and his retreat was therefore somewhat simplified.

The price of the 1915 Victor cyclecar is to be £100 complete, owing to a greatly-increased output.

It is increasingly evident that 1915 alterations will mainly consist of detail improvements making for the comfort of the passengers.

The A.A roadside telephone boxes are still in use. and where one is closed the nearest scout will accompany a member to the box and open it.

The authorities are showing their recognition of the usefulness of the A.A. patrols by requisitioning their assistance in looking out for suspected road users.

One of Dr. Low's latest inventions for the motorist is a device, operated electrically, which hands a lighted cigarette to the driver merely on pressing a

Is it true that a well-known firm of tyre makers have been sending a fleet of cars round the country pasting up notices "Made in Germany" on some of their rival's posters?

The export of American cars to France and Germany has practically ceased. England has taken a small quantity and Canada remains stationary, taking more than one-half of the total American exports of cars.

The Cyclecar Club's 1915 model rallies are attracting great attention, both from manufacturers and the public. Practically every well known make of light car and cyclecar will be represented by at least one car sent direct from the makers.

The motor trade, as a whole, has not suffered badly from the war, for the Government contracts have made certain firms even busier than usual. Orders from foreign Governments have also been numerous and extensive, and are keeping many well-known concerns busy

A Belgian motorist was recently gazing interestedly at a sporting model English light car, which, though very robust, had a very light and even frail appearance, and gave it as his opinion that the tyres would not stand up to Belgian roads for 24 hours. The tyres were certainly on the light side for the sake of speed.

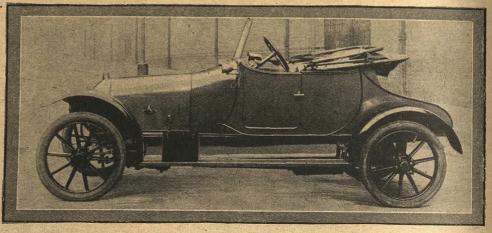
Dr. Low is still interested in everything motoring, and, like everyone else, he has had narrow escapes owing to the Stygian darkness of London. Return-ing to the city from Uxbridge a large car suddenly shot out of a by-road right in front of him, and it was only by skidding his Adamson broadside on that he escaped.

An official announcement was recently made on behalf of the Commissioner of Police regarding the order of "no lights" in London. The statement ran as follows:—"In the opinion of the competent authorities it is very necessary to continue the dimi-nution of the lighting in Greater London. This order was made under the Defence of the Realm Act by the Secretary of State and expires at the end of the present month, when it is practically certain to be renewed." As the winter is fast approaching, and would presumably be very unfavourable to an air raid, we may venture to hope that this order will not stand for very much longer. Surely if powerful gas and electric street lights can be effectively masked by preventing any light from shining upwards, it should be possible to mask motor headlights in a similar manner, still allowing a powerful beam to be projected on the road ahead, and thus showing up carts and pedestrians with suicidal tendencies.

A15

### GREATER COMFORT ON NEW ALLDAYS

Dynamo Lighting Set-Improved Seating Capacity -Longer Mudguards — Detachable Steel Wheels.



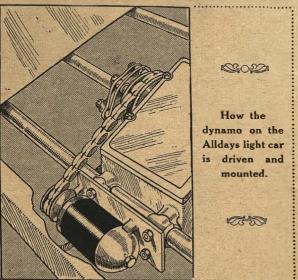
The 1915 model Alldays light car.

O very great alterations have been made in the 1915 Alldays light car, as this year's model has proved so successful that the makers have not deemed radical alterations advisable.

The keynote of the new model is increased comfort, and this is noticeable in the slightly longer wheelbase, the wider body with better upholstery, and the

dynamo electric-lighting set.

The engine remains unaltered: it is a neat and compact four-cylinder monobloc, with bore and stroke of 59 mm. by 100 mm., thus coming under 1100 c.c. The valve tappets are adjustable, and the valve stems are enclosed by a detachable plate, giving a quiet-run-ning engine. The lubrication is by a gear-driven pump, which supplies oil direct to the main bearings.



The transmission is also unaltered, and is through a large leather-to-metal cone clutch and universal joint to the gearbox, thence by an enclosed propeller shaft to the worm-driven back axle. The gate-controlled gearbox is made in one piece with a large inspection cover, and is thus greaseproof; three speeds and reverse are provided.

Steering is by worm and sector, and 700 mm. by 80 mm. wheels and tyres are fitted; either steel or wire wheels may be had at the option of the

purchaser.

The increased body width gives very ample accommodation, and the upholstery is of best quality leather, greatly improving the appearance and wearing qualities. The electric-lighting set is very complete and practically foolproof, and a full set of five lamps is supplied, comprising two large headlamps, two side and tail lamps.

The car is sent out complete with lighting set, hood, screen, spare wheel and tyre, full tool kit, etc., for £175, and the manufacturers are Alldays and Onions,

Ltd., Matchless Works, Birmingham.

### A Host of Minor Troubles.

T is popularly supposed that troubles never come I is popularly supposed that troubles never come singly, and it would appear from all available evidence that the motoring world could furnish many examples in support of the theory. To take an instance, a driver of a cyclecar was recently returning from Beaconsfield to London, when innumerable troubles fell to his lot. To start with, his headlight burner choked, then the carbide ran out, which put the lamp completely out of action.

Half way home the clutch gave vent to heart-rending shrieks every time low gear was engaged, so that the top gear only could be employed (the machine being a two speeder). Driving through the traffic of London was not easy under these conditions, and to make matters even worse the tail lamp absolutely refused to keep alight for more than five seconds. At first the trouble was found to be large masses of soot falling from the top of the lamp on to the wick, but even when everything was cleaned out the lamp still proved refractory.

Under ordinary circumstances the journey would occupy about an hour, but over twice that time was

spent on the road on this occasion.

It appears that the military authorities have taken over several sidecar outfits which are used to transport officers. Surely a cyclecar or light car would be more dignified and satisfactory.

A well-established firm in Sydney are open to take up the agency for New South Wales or the whole of Australia for a small car with four-cylinder engine, bevel gear drive, a good clearance and not too narrow a track. They are in a position to push the sale vigorously if properly supported with consignment of spare parts, etc. Particulars addressed to "Colonial" at this office will be forwarded.

### OUR WASTED LIGHTS.

A Practical Article That Shows How Light Can be Economized and the Full Effect Used on the Road and Not on the Sky.

HE leading article "Lights Out" and that on "Experiments with Coloured Lights" raise a number of interesting questions on the subject of driving lights. Some of these questions have already been partly answered, and some of them have

been simply ignored.

As well in peace as in war time the ideal lighting would indeed be by "invisible rays," but it is, unfortunately, only too obvious that a light one could see with could also be seen; the best that can be done in this direction is to mask unnecessary top-glare and to confine lighting to the road and the objects thereon.

In the whole matter of lighting there is a certain axiom from which one must start. It is this: The aim of lighting is but half-achieved when objects are visible, and completely achieved when they are recognizable. Objects are most readily recognized in the most familiar light, which is daylight. This leads one to deduce that a perfect light should fulfil the following requirements:—

1. It should have the same quality and colour as daylight, i.e., be as near as possible spectroscopically similar.

2. It should be thrown from the same direction, i.e., downwards rather than horizontally.

3. It should be diffused. This is impossible so long as light proceeds in straight lines.

### Imitating Daylight.

The first requirement is met to some extent with acetylene by the use of yellow-tinted reflectors. The better penetrating power of yellow rays in fog has not, so far as I am aware, been conclusively proved by a chain of laboratory experiments. Mere visual tests, however carefully made, cannot carry scientific weight unless they are corroborated by instrumental tests in the laboratory.

A little thought on this subject of quality as distinct from quantity (candle-power) of light will show that a driving light of the proper quality will not need to be of so great an intensity to give the same degree of recognizability, and also suggests a further question: Whether quantity and penetrating power are the interchangeable terms they are so often assumed to be.

The second requirement is very heavily limited by practical considerations. The usual height of headights from the ground is about 30 ins. or less, and that of side lights from 3 ft. to 4 ft. A very great improvement in the lighting is got by mounting the headlights about 7 ft. above the ground—on the roof of a closed car, for instance. The fact is very easily demonstrable by experiment. In this position the lamps should be set so that their central beam is directed slightly downwards. Anyone who cares to try this with a light car should get a friend to stand up beside him and hold one headlight, while he sits at the wheel, with the car standing. The other headlight being in position on its bracket, the two can be switched on alternately if electric, or, if acetylene, can be masked alternately by a third friend with a thick cloth. It is an educative experiment.

### Where We Waste Light.

We arrive now at another fact. Nearly half our light is wasted on the sky. A lamp, as usually constructed, throws a cone of rays, more or less wide in angle, according to the curves of the reflector and

lenses and the position of the source of light relatively to them. Practically half of this goes to waste quite a few feet from the car. Objects on the road are rarely more than 10 ft. high, and trees and buildings, if lighted to this height, are sufficiently well recognized for practical purposes.

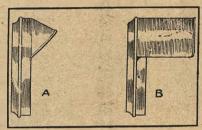
An avenue of trees is a beautiful sight in the light of one's lamps, but when one comes to think of it the

light on those over-arching trees is wasted.

### The Nearest Approach to Perfection.

Attempts have been made (notably in the case of the Rushmore multiplex lens door and Salsbury Anti-Dazlo lens) to bring this wasted light into useful service: attempts which have not received the widespread recognition they deserve from both the practical and scientific points of view. Mounted 7 ft. up, lamps on this system probably give the nearest practical approach to perfection that has yet been reached, and on account of all the light being thrown where it is wanted, the same amount of recognizability would be given objects with a less candle-power than with the usual position and construction of lamps. The important factor militating against the widespread use of the system is its costliness to manufacture.

Approaching the matter from a less theoretical side, the obvious way to diminish sky-glare is by the use of hoods or shades over the lamps. These are seen, in



The advantages to be gained in economical lighting by fitting a shield are great. B type of shield is, however, more efficient than A.

a more or less rudimentary form, on many cycle and motorcycle lamps; but to get the best results they should extend further forward and more down at the sides, as illustrated in the accompanying sketches, which show the inefficient present pattern and an efficient one, longer and deeper, but, of course, ugly, particularly on a headlight. On small electric side lights the appearance would be unobtrusive.

Another way, more efficient as regards lessening sky-glare, but having the disadvantage of lessening the useful light appreciably also, is to blacken the lower half of the reflector with a black matt varnish, or simply by the smoke of a candle. The diminution of light is, however, so marked as to render this impracticable. Only an actual driving trial could determine whether there was enough light left to see by, whereas, given good lighting originally, even ample hoods to the lamps do not sensibly interfere with the necessary driving light.

M.G.

We know of a well-established London concern which has specialized in light cars and has an extensive clientèle amongst prospective buyers of small cars. This firm is now seeking a sole agency for the whole of the United Kingdom or for the Southern and Home counties, and we shall be pleased to put any interested concern into communication with them.

### THE REX LIGHT CAR.

### Four-cylinder Engine, Three-speed Gearbox and Worm-driven Back Axle.

HE Rex Co., of Coventry, have for some time now been experimenting with a light car, and we recently had the facility offered us to inspect their new product. Before turning their attention to the pleasure vehicle, the Rex Co. have changed the order of things, and built a commercial car first, so that, in employing the same chassis for both types as they intend to, they find out what is actually required on the commercial car first and profit by the ex-

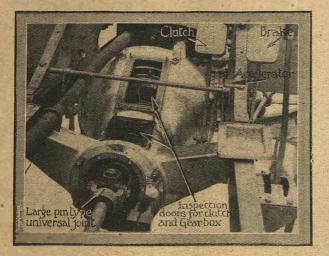
In giving illustrations of the commercial chassis, we show readers practically the light car design as it will eventually be, and though, of course, modifications will be brought to bear in parts, generally speaking, very little alteration will be found. The engine fitted to the car we inspected was the popular Dorman unit, comprising 10 h.p. four-cylinder motor, 64 mm. by 85 mm. bore and stroke, complete with clutch and

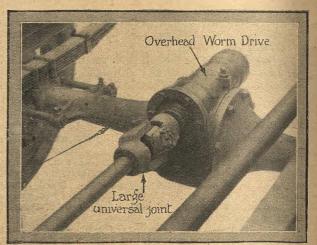
The gearbox is of the sliding type, giving ratios of 4.6. 83 and 15.4 to 1, and for the commercial vehicle

the ratios will be  $5\frac{1}{4}$ ,  $9\frac{1}{2}$  and  $16\frac{1}{4}$  to 1. A reverse, of course, is fitted. Between the gearbox and back axle two universal joints are incorporated, the back axle being of the overhead worm-driven type and of stout proportions. Compound internal-expanding brakes are fitted in the back wheel drums, operated by hand and foot. Springing is by semi-elliptical springs at the rear, rigidly held at their front end, but shackled at the rear. The type employed at the front is trans-

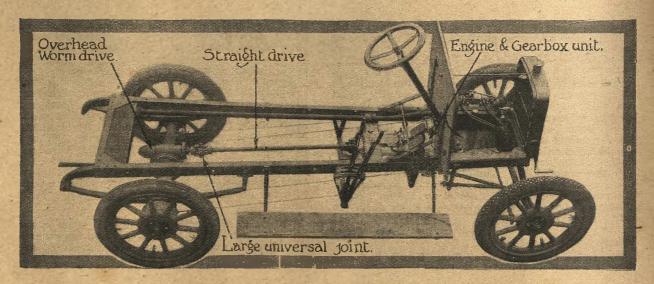
verse springs, as on the Ford.

The framework is of channel section, perfectly straight, no insweep or upsweep being embodied. Two cross-members are fitted, one at the front and one at the rear, these also being of channel section. The front axle is of H pattern, and two radius rods are taken from it to the under part of the frame and bolted up. On the model we saw, the propeller shaft was not enclosed, but it is intended to employ a torque tube in the final stages. Sankey detachable wheels, shod with 700 mm. by 80 mm. Wood-Milne tyres, are to be included, and in the case of the com-





Transmission details at each end of the propeller shaft of the new Rex light car.



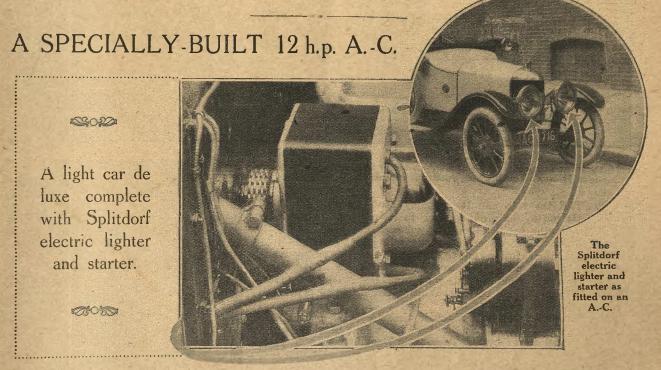
The chassis of the Rex light car.

#### THE REX LIGHT CAR (contd.).

mercial vehicle these will be increased to 760 mm. by 90 mm., a wise move in view of the heavier loads.

Control is by accelerator pedal only to the carburetter, and the magneto will be variable by hand manipu-

lation. The wheelbase and track will be about 7 ft. 6 ins. by 3 ft. 9 ins., and the weight for either car will come out at about 13 cwt. The pleasure car will be a two-seater, but the price was not fixed at the time of our visit, though it will enable the Rex to compete with other light cars.



We recently inspected a very fine 12 h.p. A.-C. light car, which was built to the special order of Mr. H. W. Thomas, of Neath. The car is finished in white, with dark blue wings and fittings and red upholstery. The

ealled into action. The large headlights will be noticed, and they should prove useful, as Mr. Thomas expects to do a good deal of night driving in his business as a mining engineer. A refinement is the mounting of the hand control to the throttle upon the steering wheel. dead white of the body is relieved by a gold beading.

A Splitdorf combined lighting and starting set is installed and is driven through a silent chain; it is

#### MAP WITH PLASTICINE. SPECIAL "REGIMENT"

The armies of the opposing forces are moving again, and everyone who is following the course of the campaign will be anxious to mark their positions. This is usually done by means of flags, but with the armies spread out into long lines, as at present, it has certain very definite disadvantages. It does not really enable the manipulator to visualize the position of the

armies, and it is disjointed and jerky.

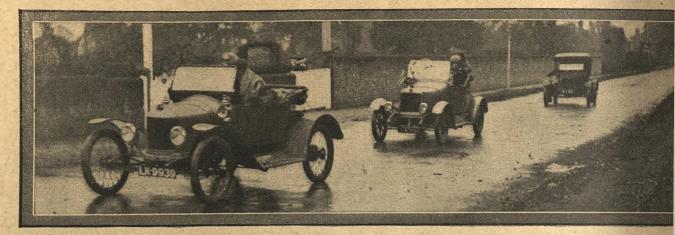
A better means by far has been devised, and is now put on the market by Messrs. Temple Press Ltd. This is the employment of the well-known modelling material known as Plasticine. As most people know, this material is plastic and retains its pliable nature. It also adheres to paper or cardboard when pressed against it. Since it is made in a number of colours, the various armies may be represented by affixing thin strips of the Plasticine to the map, following, of course, the marking on the maps which appear in the daily papers. Although the strips adhere to the surface of the card, they may be easily moved in accordance with the progress of the troops, or flanks can be

bent round to represent an encircling movement.

A special impression of "The Regiment" War Map, printed on both sides, has been prepared on card-board, and this is sold, together with a box containing a full supply of Plasticine and directions, for 6d. net complete, or will be sent from this office post free for 8d. The idea has been carried out for some weeks in our own offices with success.

sure in action and starts the engine immediately it is





Light cars and cyclecars on the occasion of Motor Cycling Club's closing run to Horley. The Brighton road was crowded with small cars.

ESPITE the rain and the clammy brown leaves that kept fluttering to the ground, there to lie and rot for the next few months, the Brighton road seemed almost normal a little more than a week ago when the Motor Cycling Club and the Cycle car Club held their closing runs to Horley and Brighton respectively.

The M.C.C. run was well patronized by light car and cyclecar owners, several of whom turned up on the latest productions from America, amongst them being a Whiting-Grant, which attracted a good deal of attention.

a good deal of attention.

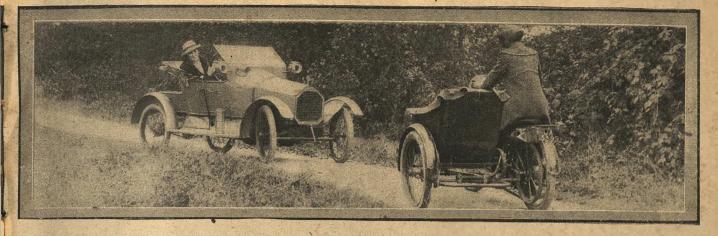
The cars which reached Brighton in time for lunch on the 25th October were two Morris-Oxfords, two Victors, one of which was a new 1915 model driven by Mr. Pearson, a Buckingham, a Stellite, a Swift and an ancient chassis in which was Mr. Martin's new Aston-Martin engine, which he is engaged in testing.



The new Whiting-Grant car attracted a good deal of attention at the closing run of the Motor Cycling Club to Horley.



THE CYCLE
The upper photograph shows a group outside the hill on which seve





LUB AT BRIGHTON.
Lotel, Brighton, and the lower illustrates the brow of a steep there tested their machines.

Ladies first, but who shall have the preference when two meet in a narrow lane such as is depicted above?

After lunch somebody suggested that an attempt should be made on The Cindertrack hill, which is situated about 1½ miles out of Brighton, on a by-road leading to the left of the main London road. Accordingly, several of the more enterprising members of the club set out, and led by Mr. Martin flew off to the ascent.

the club set out, and led by Mr. Martin flew off to the ascent.

The hill is well named The Cinders, for the track is rather loose, and it gets steeper and steeper until the last 30 or 40 yards has a gradient which is quite 1 in 3. It was this that proved the Waterloo of the majority. Mr. Martin, however, was not to be denied, and after restarting on the 1 in 3 with one passenger he afterwards performed the same feat with two and three up besides himself, and, considering that his chassis weighs about 15 or 16 cwt., this is a marvellous proof of the power of the Aston-Martin engine.

this is a marvellous proof of the power of the Aston-Martin engine. Although the hill is so extracrdinarily steep, we learnt with interest that several commercial lorries had been tested up it fully laden, and that the hill has been known amongst motorcyclists for some time; in fact so much has it been used that complaints are being made by the locals regarding the excessive testing of machines on the gradient. After the tests the party broke up.



Restarting on 1 in 3 with four up, Mr. Lionel Martin's feat on "The Cinders," near Brighton.

### ELECTRICALLY-WARMED CARBURETTERS.

### A Discussion on the Best Methods of Ensuring Easy Starting in Cold Weather.

AN you get your car firing on all four cylinders these chilly mornings?

"Oh, mine goes on three for about two

miles and then gets into its stride.

"Well, you are luckier than I am, I have to wind for half an hour at least, and then I get a spit or two and eventually go and get a warm towel and wrap round the carburetter and pipe and then get going. "Why don't you have a decent carburetter?"

growled the man in the corner, "my car starts up

easily enough."

"But then you are rich enough to run on firstgrade spirit and you don't mind how much is used. We can't afford to do only 15 to the gallon, which after having connected up through the light in his

garage for half a minute."

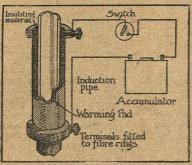
"I say, don't you remember seeing a few years ago an electric bed warmer which looked like a piece of felt, and you simply pushed the plug in the lamp circuit and switched on and the bed warmed up? How would it be to wrap one round the induction and connect to accumulators?'

"That would use too much electricity and spoil

your accumulators, wouldn't it?"

"Oh, no, not if you took a bit longer to warm up, say five minutes."

"Well, why not put the electric pad inside the inlet pipe?"



Figs. 1 and 2, showing how it would be possible to apply heat to the inside of the induction pipe by means of electricity and a suggestion for warming the air as it enters the mixing chamber by means of an electrically heated wire grating.

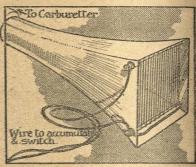


Fig. 2.

Fig. 1.

rather says that your carburetter isn't up to much, or you would manage to get easy starting and about

three times the m.p.g."
"Why not electrically warm the carburetter?" "But how? It would take too much juice."

Such was the chat that set us thinking the other night, and the man in the corner sarcastically suggested an indiarubber hot-water bottle, as he said "he wasn't going to worry with an accumulator, any way." But the other two of us got busy.

"I remember seeing two or three dodges at one time or another. One man had a platinum wire up the middle of the pipe suitably insulated which he switched on and let it get red hot."

switched on and let it get red hot.'

"Yes, but what happened when he left the current

on? Wouldn't the wire set fire to the gases?"
"That was exactly what did happen, and he went on to say it would probably be a bit better if he wound a coil of German silver wire round the outside, and when I last saw him he was in the best of good humour, as he had proved that it heated up the pipe beautifully and he got the car going first pull up,

"Oh, how would you get it out? It would never

do to leave the pipe choked in that way.

"Well, what I mean is to increase the size of the pipe so that the inside was the same as before and leave the warmer in permanently, like this sketch." (See Fig. 1.)

"While you are at it the best thing to do would be to get a pipe made by the 'electric warmer' company to take the place of the standard pipe, and have the two pipes, so that the ordinary pipe can be used

in summer and the 'warmer' pipe in winter."
"Well, let's find a firm to make it and one enterprising enough to put it on the market."

"Here's another dodge I've just thought of. Why not put the warm electric wires across the air intake to the carburetter, like this?" (Fig. 2.)
"You would just have a bell mouth to the induction

pipe, only square in shape, and thread some German silver wire backwards and forwards through some insulating material at each side, connecting up the ends to your switch and accumulator."

"Well, we might almost make that ourselves."

### NEWS FROM THE FRONT—A Member of Our Staff's Experiences with the A.S.C.

Dear LIGHT CAR AND CYCLECAR, —Just a word to say that I am still "revving," and to ask why on earth some of you don't join us out here a la grande vitesse! There is plenty of work, plenty of food, fresh air and novel experience.

You might learn how to take down a back axle with a hairpin, to re-bush a connecting rod with a pair of pliers, and how to make a rissole out of a differential casing after the latter item had been toasted over the fire from a fierce transmission brake! Gentlemen, extend your knowledge!

It is great fun holding a 4-ton lorry, with a load of 100,000 rounds of ammunition, down hill on a road cut up by the passage of guns after 24 hours rainfar more interesting than tangoing in Russell Square after it has been watered.

I have not had the opportunity of seeing the paper or any motor paper—since I have been abroad, and I should be very grateful if you would send it out.

I cannot tell you much because of the Censor, but I have not seen a single English light car in my district and only one home-made cyclecar, made by a Frenchman in his spare time.

Best of luck. Hope to see you soon.

L.S.V.

M.T., British Expeditionary Force.



### THOUGHTS AND OPINIONS

"The suggestions of to-day may be the realities of to-morrow." .....



### THE CAUSES OF SLUGGISH STARTING.

Some Suggested Solutions to the Problem in Petrol.

### A Choked Pilot Jet.

I was much interested in the article regarding bad starting, as I had a similar trouble with my 1914 Swift. I tried everything in the usual way, altered

petrol level, reset magneto, etc., but all to no use. Finally, I took out the pilot jet of the carburetter and found a particle of grit choking it. I cleared it out, with the result that I could start up easily and immediately, and she now starts and runs as well as ever. No amount of priming had any effect before, ever. No amount of primary and it is not at all necessary now.

T. J. RICHARDS.

### How a Reader Overcame the Same Difficulty.

I noticed recently that "McM." attributed a difficulty in starting to a change in the chemical composition of the petrol in the carburetter owing to its having stood all night. This is obviously wrong, as in his account he flooded the carburetter two or three times, thus renewing the petrol, at any rate in the jet.

### Sticking Valves Suggested.

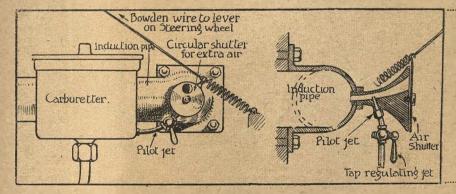
With regard to the "Problem in Petrol" in your issue of the 19th inst. I would suggest that the fault is not in the petrol at all, but that the valves or tappets are sticking. This may be due either to tight fitting or to gumming up, or probably both.

The late closing thus occasioned is a common cause of feeble explosions when the engine is started from cold, and every time the engine turns over they become a little freer.

Certainly it should not take three or four dozen swings to remove the stale petrol from the top of the jet. Moreover, the same thing will often take place when petrol fresh from the tank is injected into the cylinder, so that the solution does not seem to lie in the staleness of the petrol.

If, however, paraffin be squirted into the guides a great improvement is often effected.

St. Neots. J. E. CARDELL



How a medical motorist solved the difficulty of sluggish starting by fitting a pilot jet to his carburetter. The device included an extra air port, controlled from the steering wheel, which improved the petrol consumption.

Judging from my own experience with a Morris-Oxford, it is merely a question of petrol supply. Too much or too little petrol will give the same symptoms. If you flood the engine with petrol you will require to open the throttle when she does fire, and let sufficient air be added to form the explosive mixture. However, I fancy that the engine in question is starved, and that if you allow a more generous jet opening the starting will be easier.

I had, as I have mentioned, the same difficulty. If I adjusted the jet opening and gave easy starting the petrol bill mounted up to less than 30 m.p.g. If I decreased the jet opening it was threatened with serious heart trouble. A pilot jet solved the difficulty. This was made for me, and fitted very neatly by Mr. Bernard Cuttriss, Cleveland Street Garage, Doncaster. I append a rough sketch showing its application to the W. and P. carburetter. With this, three turns of the starting handle started the machine without fail on the coldest morning on pure benzole. Never more than three turns were necessary unless carelessness flooded the engine.

The pilot jet attachment included an "extra air" opening which allowed a mileage of 43 m.p.g. to be obtained on ordinary fast running.

JAS. B. M. (M.B.) Doncaster.

### The Call for Self-starters.

The light car and the cyclecar are preferably economical vehicles, and I consider Mr. J. Burn Murdoch, of Cambridge, is rather, by the diagram and matter of his letter, making out a case which will frighten some from his advocacy of electric engine starting we are not all enthusiasts in mechanism. For engines of all sizes, certainly up to 1400 c.c., there is nothing against the pedal or kick-starter operated from the driver's seat. I have nothing else on my machine, and it is a boon to be able to stop the engine in a long traffic halt. It also saves uncertainties of mind as to stopping the engine or not on the arrival of an acquaintance to chat just as you are about to resume a journey.

The pedal starter is fundamentally simpler and less liable to derangement than any other form, excepting perhaps the common starting handle. Penge, S.E. A. E. Parnacott.

[There certainly exists a great demand for some simple means of starting the engine without leaving the driver's seat. Generally speaking, a combined electric lighting and starting set is too costly. and a mechanical arrangement worked by a pedal or side lever would be better.-ED.]

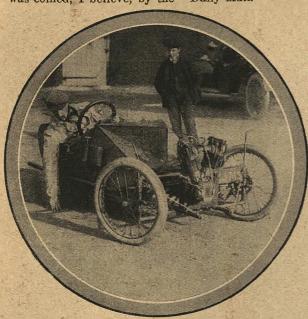
### IS THE CYCLECAR MOVEMENT DEAD?

The Rev. H. G. Morgan Defends the Simpler Types of Machines and Attributes Some of Their Lack of Popularity to an Unsympathetic Press, from which He Excepts This Journal.

The cyclecar has suffered a good deal of late from an unsympathetic Press. The cyclecar movement is, we are confidently assured, dead, though there are some "honourable survivals." I am relieved to find the

Morgan among them.

Now what is the history of the cyclecar movement? It was started to foster the production of cars which should be lighter and more simple, and therefore more economical, than the existing two-seater. It was agreed that lightness and simplicity together would secure "much cheaper motoring." The phrase was coined, I believe, by the "Daily Mail."



Reversing by hand on a racing Morgan. Owing to its lightness and lowness it is quite possible to do this on a favourable road.

Another term for the movement, "the New Motoring," implied also a certain departure from standard practice, for, of course, a light car was no new thing. The aim of the cyclecar movement may be summed up in the motto adopted and still retained by the Morgan—"the cheapness and simplicity of the motorcycle with the comfort and safety of the motorcar.'

#### More Than Fair Treatment.

I have seen letters in some motor journals relating to the way in which private owners are treated by some manufacturers, so I should like to state my happy experience.

Having purchased a light car fitted with a Dorman engine which was in a very bad state of tune through no fault of the makers, I wrote to Messrs. Dorman for

a few tips as to how to tune it up.

Their reply was, "Bring the car up for us to see."

This I did, and they were good enough to spend the best part of two days putting the engine as it was when it left the test bench and tuning up the car when it left the test bench and tuning up the car. buretter, with the result that I do not use so much petrol by nearly half, and that there is an increase in speed of 5 m.p.h.

Brentwood.

MORTIMER W. LARKIN.

Now the light car does not necessarily fulfil those conditions. It is certainly a little cheaper than other two-seaters (with some exceptions), but it is not more simple. On the contrary, many makers insist that their cars are "big cars in miniature," yet simplicity is essential to economy.

As an example of the economy of simplicity, I may instance that a very simple cyclecar like the Morgan can be entirely overhauled at the works for three guineas, and can be renewed in every working part and brought up-to-date for ten guineas. These are not "war prices," but allow a reasonable profit to the firm. I do not say that there may not be a larger number of repairs, at least in the first year, in the case of the simpler car, but they will be triffing and

There are some, however, who question whether this economical simplicity can be combined with thorough efficiency. There have been successes and there have been failures, as one would expect in a movement which was largely tentative and experimental. But it will be acknowledged, I think, that no conventional light car has beaten the record of the G.W.K. or the Morgan in reliability trials—I reckon the G.W.K. as a cyclecar on account of the simplicity of its unconventional transmission.

A light car at present holds the records at Brooklands (though I fancy that those records will shortly be disputed), but for speed on the road and hill-climbing the cyclecar is supreme. Nearly all awards have gone to the Buckingham or the Morgan. In the general efficiency trial of the Cyclecar Club five of the first dozen cars were cyclecars.

Surely, then, at a time when economy is becoming vastly important, it is a mistake to throw cold water on a movement which especially aims at economy. It is, of course, ridiculous to say that the cyclecar is dead. The output of the Morgan, which is a cyclecar pure and simple, for the first six months of this year was double the output for the corresponding period of 1913, and nearly four times as large as in

Other cyclecar firms, no doubt, can show equally good progress, but unfortunately the newcomers, who may have something well worth exploiting, are being kept back by the mistaken pessimism of the Press. The Light Car and Cyclecar is certainly blameless, and, moreover, has done its utmost to overcome that distrust of the unconventional which has been the main hindrance to the development of H. GEORGE MORGAN. the cyclecar.

### Benzole Supplies.

In your issue of 12th October I notice that Mr. J. P. Walmsley, Wimbledon, is using benzole. I should be obliged if he would inform me where he obtains it, as I have been unable to get any in this district; also, if his car is a water-cooled Humberette, could he tell me what size jets are now fitted?

A. T. HOLMAN. what size jets are now fitted? Wimbledon.

### A Reader's Ideal.

From the first issue I have read THE LIGHT CAR AND CYCLECAR with interest, but of all the models described not one has entirely met my idea of the "ideal." Having experience of cars and light cars, I think the great defect of the latter is lack of weight on the hack release on the back wheels, especially when occupied by the driver only. The sketch will illustrate the type of

### THOUGHTS AND OPINIONS (contd.).

light car that I am looking for. Briefly, the specification is as follows: Two-cylinder two-stroke or small four-cylinder engine placed at the rear of the car, just in front of the back axle, with the radiator projecting each side of the tapered tail of the body. This would give a fairly constant weight on the driving wheels whatever passengers or luggage were carried.

The engine to be coupled to a shaft, at the end of

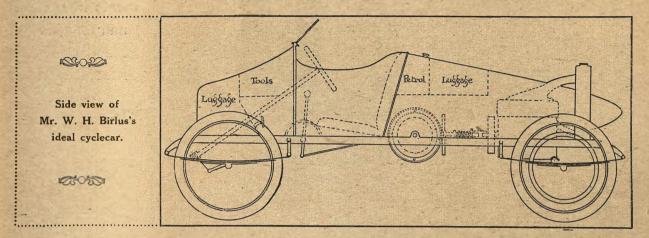
which is a friction disc driving a large friction wheel, This wheel is mounted on a square shaft, at the ends

of which are large belt pulleys. This gives simplicity and lightness, saving the weight of gearbox and axle. The seats would, of course, be more forward, but the distribution of weight would be better than in the usual arrangement. I should also want a kick starter operated from the driving seat; every small car should be so fitted.

The lever moving the friction wheel across the disc should have as many positions for various gear ratios as possible. Lastly, large wheels and tyres would be

fitted, and good brakes on the belt rims.

Middlesbrough. W. H. BIRLUS.



#### WHERE ILLUMINATED SIGNS ARE NEEDED.

It was a happy thought when the A.A. erected that useful illuminated sign at London Colney, as depicted in a recent issue of THE LIGHT CAR AND CYCLECAR. It has always been a mystery to me why something of this sort has not been universally resorted to at important road forks and cross-roads. There can be no doubt that the instance referred to is one of real danger, as the high road for London bears away sharply to the left on an incline, but I rather fancy I can remember that very sign over the telephone box quite 18 months ago, although, perhaps, it has only recently been illuminated.

Now that winter is once more upon us, and, more-over, the perils of dim lighting prevalent almost everywhere, the need for information on the road at night is increased. The useful "road lighthouse" at Ruxley cross-roads near Sideup on the Folkestone road, erected some time ago by the A.A., is a device that, in spite of its apparent success, never seems to have been erected elsewhere. It appears to me that if it were universally adopted, a code might be issued to A.A. members, drawing their attention to what the meanings are, and giving a list of the points where these special signs are to be encountered, so that the motorist might be on the look out for the signals.

With further reference to illuminated signposts,

the only other one I can call to mind stands at the junction of the Bath and Staines roads in Hounslow. It very usefully points the ways to Bath, Staines and London, and may be seen from some distance ahead. But why have not these invaluable devices been

allowed to multiply

I would suggest that a similar sign be placed at Purley Corner, where the Eastbourne and Brighton roads diverge, and another at the dangerous T turnings just over the bridge at Guildford, where the roads from Portsmouth and Farnham unite. Then, again, at the Jolly Farmer, Bagshot, there is room for a similar device to indicate the directions of the Basingstoke and Southampton roads. Nearer London, too, Lewisham Obelisk is the point of bifurcation for Folkestone and Hastings.

Scores of instances present themselves, in fact, for

road users must often have been puzzled when at Edgware in deciding which is the turning to take for Watford, and the right way to St. Albans, and, again, when in Barnet they may have pondered as to the direction for Hatfield and the North, or the direct road that branches off for St. Albans and Coventry. At Kingston-on-Thames there is much needed information as to the turning for Ripley and Guildford.

Reverting to the advisability of flash signals at cross-roads, some typical points where urgent measures are required are at Bolney cross-roads on the main Brighton road, a veritable death-trap on dark nights, at Harlington Corner on the Bath road, the scene of a very serious accident some years ago, at the Victoria Inn, Cheam Common, on the Dork ing and Worthing road, and at the cross-roads just beyond Ongar Station, in Essex, where an important reconstructed trunk road to the East Coast via Epping Forest and Chelmsford crosses a much-used highway to Dunmow, Thaxted, Saffron Walden and Cambridge.

If a uniform system of road signalling were at last to be brought into being, I am convinced that the possibilities of accidents would be materially reduced and brought almost to a vanishing point, with a result that the highway would become as safe as the railway. I believe, in the near future, our motoring organiza-tions will awaken to these facts, and extend their useful work in this direction. It is quite conceivable, too, that certain flash signals might be stationed at dangerous corners and hills as well as those to indicate cross-roads.

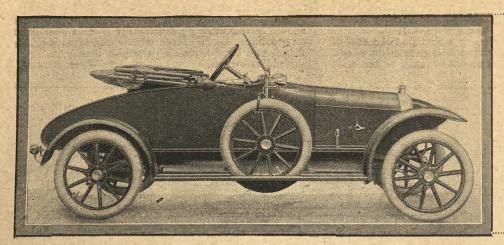
A. Bruce. indicate cross-roads. Romford.

### The 1915 Model Rallies.

"Inquirer" is right. I made too general a statement. Some 1915 cars will, of course, be in the hands of the public. My point was that few, if any, of the privately-owned cars which will be found at the rally will be 1915 models. If the 1915 models are entirely segregated there is no need that the rally should be confined to the trade. I hope that "Inquirer" will bring his 1915 Morgan. H. GEORGE MORGAN. bring his 1915 Morgan.

### THE ENFIELD LIGHT CAR FOR 1915.

Four-cylinder 10 h.p. Engine.



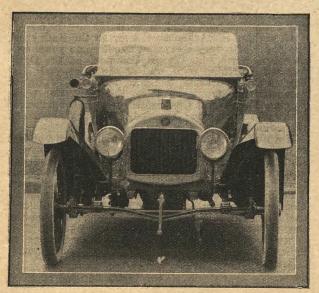
Detail Improvements in Body and Chassis Render this Machine an Excellent Proposition.

Side view of the 1915 Enfield light car. Note the graceful curves of the stream-line body.

WHEN a car has proved systematically good throughout there is obviously no reason to alter the design for the mere sake of altering, and such is the policy adopted by the manufacturers

of the Enfield light car for next season.

With the exception of one or two minor improvements, then, the new model remains practically unaltered. The alterations take the form of practical improvements which should tend to make the Enfield an exceedingly attractive proposition. Doubtless what will appeal to the prospective buyer most is the inclusion of an electric-lighting outfit, which includes two powerful headlamps, side lamps and tail light.



Front view of the 1915 Enfield light car.

The dynamo, which is carried between the chassis and gearbox, being bolted up to the latter by a special plate, which is screwed on to the gearbox bearer arms where they clamp the sub-frame, is driven by a Whittle belt from a pulley off the propeller shaft.

A18

The manner in which the dynamo is carried strikes us as being particularly good, as it is out of the way, and does not come into contact with other parts of the mechanism, while it is most accessible.

The next improvement is doubtless the increased body room. The seating space is considerably enlarged, and will hold two persons with ample reserve. For this next season leather upholstery is specified

as standard.

Another feature is the introduction of steel artillery wheels, but these are optional, and wire wheels, as fitted last year, can be had if desired, either kind being detachable. Mudguarding has been improved by a much wider pattern of guard being fitted, and we also noticed that metal valances now entirely surround the body.

A little innovation which should prove most acceptable to the driver is seen on the floorboard below the control pedals. Hereabouts a well is made, just to fit the heels of the boots, so that not only is the angle of the foot set correctly for the pedals, but a support is formed for the foot when applying

pressure.

We noticed that the radiator had been somewhat altered, and this turned out to be a general rounding off of the corners, certainly enhancing the appearance. The car is sent out equipped with hood and screen, lighting set, horn, kit of tools, etc., and spare wheel, and sells for £175. The makers are the Enfield Light Car Co., Fallows Road, Sparkbrook, Birmingham.

### The 1915 Road Rallies.

The Hon. Secretary of the Cyclecar Club has received the following favourable opinions on the 1915 Model Rallies to be held on 21st and 22nd November.

I consider that rallies and things of that sort are a stimulant both to the pastime and the trade, but under existing conditions, with the Show wiped off, I think the rally should assume a position of great importance to the trade. Frank Whitworth,

Manager, Colmore Depot, Birmingham.

I think your idea is quite a good one . . . and as there is no Show this year it is doubly interesting.

A. G. GRICE,
for G. W. K., Ltd., Datchet.
A. Noble,
for Auto-Carriers, Ltd., Thames Ditton.

ECC 2003

FROM CYCLECAR TO AMBULANCE WAGON.

100 500 W



TOWN TO

Experiences of Mr. Glynn Rowden (Chairman of the Cyclecar Club).

WE have received the following interesting letter Y from Mr. Glynn Rowden, the Chairman of the Cyclecar Club, who is now at the Front driving an ambulance, which must seem strange after his experiences with his Morgan.

-, after a very good cross-When we reached – ing, we came south about — miles to — and from there we have been moving about.

We did not go to ——, as we were wanted to clear the hospitals, and get the wounded on the trains. We had rather a bad time at first, as they had made no provision for us, and we had to get our own food and sleep in the ambulances, but now we are comfortably housed and have our food at the cafes.

We have been given tea, sugar, cheese, beef in tins, stew and bacon. The French people are very good

to us, hardly charging anything for cooking the meals, doing our washing and mending our clothes.

The roads are very much cut up owing to the motor traffic, and, of course, the pave is very trying for the wounded, but still we manage to get a lot away to the trains in a day. We hardly hear any news, and have almost lost count of the days; we get up sometimes at 5 a.m. and sometimes at 8 a.m., and when

necessary we work all night to get the hospital clear.

The fighting, I believe, has been tremendously fierce, and we have had a great number of wounded."

It is terrible to go through the villages where the Germans have been—houses and churches shelled and the people's homes wrecked and denuded of food and furniture. We have seen a lot of refugees on the road; poor things, they are half-dazed and often wander back the way they have come; they camp in the fields and eat turnips or anything they can get. Sometimes we see troops, both English and French;

it is surprising there is no sign of excitement or rush, they travel along quietly just as if on manœuvres. Food seems to be normal in price. Martial law is

in force in all the towns, the inhabitants have to be indoors by 9 p.m., and no motors are allowed between sunset and sunrise.

One day we passed General French in a Rolls-Royce. We have some French drivers and they are very nice to talk to, and teach us motor French.

### AN OPEN-AIR

THE Open-air Motor Shows, as the 1915 Model Rallies of the Cyclecar Club have been called, are attracting widespread attention at the hands of the Press, who have almost universally approved of the idea. splendid selection of 1915 models has already been promised, although the event does not take place until the 21st and 22nd November.

Some doubt appears to have risen in the minds of possible par-ticipants as to whether the event is confined to cyclecars only. Anything that is known as a light car or cyclecar can participate, as the Cyclecar Club is an organization for encouraging every type coming within the jurisdiction of the new motoring movement.

There is no limitation to the number of cars of one make which can attend the rallies provided they are all of 1915 pattern or what will be sold in 1915. All new models will be parked separately from the older ones in order to provide every facility for spectators to see their new features.

All motorists are invited to at-



### MOTOR SHOW.

tend, and their machines will be marshalled separately from the 1915 models at the Red Lion Hotel, Hatfield, the Burford Bridge Hotel, and Wisley Hut Hotel

Posters and all other particulars concerning the event can be obtained by sending a large stamped addressed envelope to the Hon. Organizing Sec., Mr. W. G. McMinnies, 7-15, Rose-

The map reproduced on this page illustrates the route to be taken from Hatfield to Burford

Bridge Hotel.
The latest list of 1915 models, for which space has already been booked, is as follows:

Auto-Carriers. Jennings - Chal-

Averies-Ponette. Calthorpe. Carden. Deemster. De P. D-Ultra. G.W.K. H.D.C. Horstman. Hurlincar.

mers. Lagonda. Morris-Oxford. Percival White. Robertson. Singer. Trumbull. Victor. Warren - Lambert.

### EASY STARTING ON COIL IGNITION.—

An Interesting Fitting for Five Guineas. . .

I N these days of high-tension magnetos one is apt to forget the good points of the old system of coil ignition, chief of which was the ease of starting.

The interest in any means by which easy starting may be obtained has been expressed in these columns, and Victor Motors, of Eynsford, Kent, have introduced a coil ignition set which may be had as an extra on Victor cyclecars, or may be fitted to any make of machine for five guineas.

The special point of the apparatus is the neat and simple contact breaker, which is a simple extension on the armature spindle. Thus the existing two-toone gear is used with the minimum of fitting, and the addition to the magneto is such that no damage can

possibly be done to it.

The coil and accumulator are mounted on the front of the dashboard under the bonnet and are readily accessible; a four-volt accumulator is used. The wiring is also very simple, as the diagram will show. The device certainly works extremely well, and

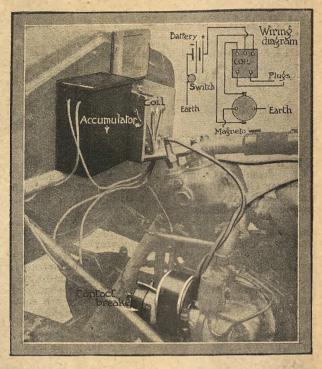
with the ignition retarded the engine may be slowly pulled over compression, when it immediately fires and continues to run at a mere 200 or 300 r.p.m. In fact if the engine be switched on to magneto ignition

without advancing the spark it immediately stops.

Even when cold starting is quite easy, two or three revolutions of the engine are necessary to draw gas into the cylinders, and then the first pull up will start

the engine with ease and certainty.

The device should meet with a large demand, as most V twin engines require a certain amount of knack to start and are generally quite beyond the capabilities of the lady driver. Deliveries can be given almost immediately.



Details of the new Victor coil ignition set, which can be fitted in conjunction with a magneto.

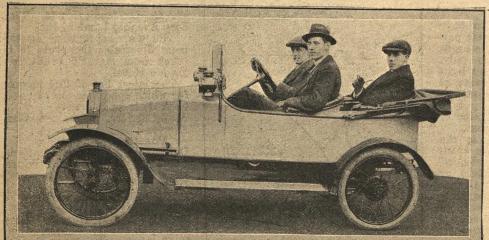
### A NOVEL THREE-SEATER WARREN-LAMBERT.

The Warren-Lambert Engineering Co., of Shepherd's Bush, has just completed a novel three-seater light car to the order of Mr. C. A. Falkner, of Parkstone, Bournemouth. The car, which is built on the standard chassis, is likely to be made a standard model next year, and should make a strong appearance of the control of t to motorists requiring a three-seater, but who have for the most part had to be content with the dickey seat. To form a third seat, the back has had to be altered in shape, and now the tool and spares lockers are placed on each side of the rear seat. The hood is also of a special shape, and folds well back over

the rear seat. The special body costs £10 10s. more than the standard, and the hood an extra 20s.

### M.C.C. Closing Run.

There were no fewer than nine light cars and cycle-cars to be seen at the Chequers, Horley, on the eccasion of the M.C.C. closing run there. These in-cluded a McKenzie, a Whiting-Grant, a Saxon, a G.N., Dr. Low's Adamson, a Wilton, and a Nardin. There was a gathering of about 36 people altogether, the weather militating against a larger attendance.





The neat lines of the new three-seater Warren-Lambert are apparent from the photograph. The threeseater body costs ten guineas more than the standard model.



### CROSS COUNTRY COMMENTS.

The Call for Weatherproofing and Cars of "Clean" Appearance.

THE pelting rain beating down on the slates outside while I write naturally turns one's thoughts to the possibility of still further increasing the

weatherproofness of the light car.

Even on the best arrangements of hoods and screens there are still too many points at which wet and wind can penetrate. Some of the best hoods take quite a time to erect, and then, when all the buttons and straps and curtains are fixed, one still has but a makeshift device, than which a really good umbrella coat would be much more effective and cheaper.

Is it not possible to construct an absolutely water and wind-tight car with a body covering of a light, simple and cheap design? The coupé or the cabriolet is too heavy and expensive for most of us. What is required is some serviceable, light and easily-erected covering, which is impervious to the strongest attacks of wind and weather.

#### The Bath-chair Model.

We have an excellent model in the invalid's chair. The hood and screen can be erected at a moment's notice and made absolutely wind and waterproof. There are no cracks between the front and the rear portion round which the wind can whistle and cause

tidy, to my mind, than the usual spare wheels, tyres, D.A. outfits, toolboxes, horns, accumulator packets, etc., etc., stuck all over the footboards and hung in festoons round the machine.

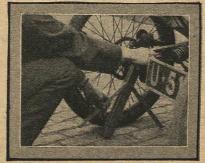
### Abolishing Excrescencies.

Surely all these little extras should be stored away so that there is not a line of the car spoilt by their excrescencies. Step by step, it is true, we are coming to this desirable end, and in time a motorcar will present a perfectly clean external appearance, free from any object or article which can destroy the pleasing lines the designer had in mind when he first

sketched out the picture on the drawing board.

Those ugly lamps and horns will probably have to disappear, following in the same steps as the spare wheels and tyres, for which even now cunning coachbuilders are devising hidden lockers. At the Paris Show last year the crowds were somewhat astonished at the latest phase in accommodating headlamps in the radiators and mudguards. It is surely another indication of the desire for clean outlines. You have only to raise the bonnet of the modern light car to see the same influence at work. What people are aiming at is the box-like engines with clean exteriors.







Mr. J. F. Sellous Jones, who drove a Buckingham cyclecar in the Scottish Six Days Trial, has invented the simple jack shown above. It is being marketed by Mr. J. F. Buckingham, Spon Street, Coventry, and the price is 3s.

the invalid or ancient dame discomfort. Would it not be possible for a similar idea to be carried out on

a light car?

The main difficulty seems to be in the junction between the hood and the windscreen, but to the ordinary observer's eyes there does not seem to be any reason why the hood and windscreen should not be made in one, in which case, of course, the latter would have to be made of celluloid, with a hole through which the driver can obtain an uninterrupted view of the road. Perhaps, too, side curtains could be made in one, with the hood wrapped up neatly, so that as soon as the main part of the hood was erected the side curtains and front curtains would flap down and the machine would then be more or less completely waterproof.

The framework of this suggested covering would be simply the two arms of the usual victoria type of hood, the side members being strapped and strained down

to the ordinary body of the car.

### £1000 Caravans.

It has always been a source of amazement to me that a man who spends anything from £150 to £1000 on a car generally succeeds in making it resemble a caravan more than anything else by the addition of enormous boxes and receptacles on the running board and other points of the car. Nothing looks more un-

For not only do these flat, excresentless sides of metal mean easier cleaning, but they also impress the newcomer with the simplicity of the mechanism, for if a man, on being introduced to a motorcar, saw what appeared to be a box with one lever on the outside to push one way meaning to go faster and to push the other way slower, he would think, "What a simple type of machine. Why, even I could drive that."

A Complicated Appearance.

On the other hand, on some machines he would be confronted with the very reverse. Whole batteries of levers, rods, wires, switches and electrical instruments are arranged on the dash and the steering wheel for him to watch, and he imagines that a whole house of mechanics are required of the very greatest intelligence. The engine seems to his eye, too, to be a

mass of complications, and so on throughout the car.

No, the car of the future will be something quite different. In appearance it may resemble a boat or a Its lines will be absolutely free and con-It will be possible to clean it with a hosepipe. There will be no little corners where dirt will collect either in the motor or on the bodywork of the car, and everything that matters will be thoroughly protected. The motor and transmission will be box-like in design. Such, at any rate, is my conception of the future car.

A21

#### SCO22

Archibald Nutcracker was such a scorcher that his last conviction resulted in his licence being suspended sine die.

So he went to Brooklands anxious to pursue his motoring career, but found a sentry on duty and the military in possession.

CC:055









Som som

"I will try the Continent," he said; but on arriving in France be found everyone fighting and the roads impassable.

Then an inspiration seized him. Why not join the R.A.C. motor volunteer corps? With "O.H.M.S." on his number plate, he is now having the time of his life driving generals about.

Having removed the low gear chain on a Morgan for the purpose of repair, it was recently my fate to drive some 20 or 30 miles on a top gear of 3 to 1, which not only required very careful humouring of the engine, but also considerable clutch slipping and speed work in rushing steep hills. Incidentally, it proved the value of a Ferodo-lined clutch. A week later, with the chain still absent, I wanted to take a journey of 100 miles or so down west, and herein found an excellent opportunity for putting to practical test my knowledge of the country.

Worcester was the objective, and the problem was the best way of getting there without being stalled on a hill. Off-hand the following routes occurred to me immediately. The direct route through Oxford and Moreton-in-the-Marsh, which necessitated the ascent of Dashwood and Bourton-on-the-Hill, and an alternative route through Henley, Abingdon and Cheltenham, which is probably the easiest way, the only

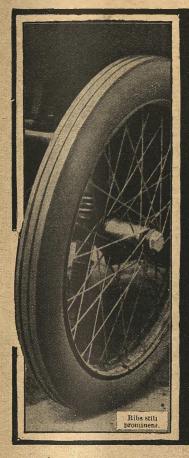
hill of note being that leading out of Henley towards Huntercombe, and lastly, the more northerly route through Berkhampstead, Aylesbury and Enstone.

As a matter of fact the chain was repaired in time, and so I had no chance of putting to the test the hill-climbing powers of the engine on a 3 to 1 gear, though I believe it would have taken anything on any

of the roads in question if given a run.

In thinking about this, it occurred to me what an excellent competition could be originated on these lines to prove drivers' knowledge of the country. Let us imagine a party of motorists at Stratford-on-Avon. They would be told that they would only be allowed to use their top gears, and would have to reach Banbury. Unless a man possessed a very excellent knowledge of the country, I doubt if he would reach the old market cross at all, for he would find the famous Edge Hill barrier in the way in whichever direction he tried to win through.

A22



### After 5923 and 9238 miles.

These reproductions are from untouched photographs kindly sent in by Mr. H. Bradley, of Leeds, who, up to the moment of writing, had obtained 9,238 miles from the Palmers on the front wheels of his Morgan, and 5,923 miles from the back tyre. He goes on to say "The tyres (26 x 3 in.)

seem goodenough for another 10,000 miles.' This is quite unsolicited testimony to the outstanding durability of



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TO THE READER

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(A23

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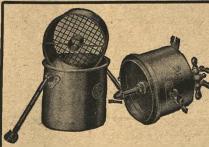


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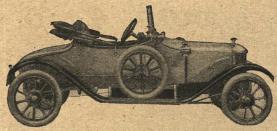
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Trade 102-474

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

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Trade zzz.341

CRASCENT, 1913, with 1914 transmission and improvements, fully equipped, good condition, £65 or nearest. Henrick, The Retreat, Baldwin's Lane, Hall Green. 102-g374

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

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G.W.K., 1914, perfect condition, run 3000 miles, engine recently completely overhauled by makers, new discs, tyres almost unpunctured, has done 48 m.p.g., and won gold medal in reliability trial, whole in perfect condition, two spare tubes, tools, spare cam, chain, etc., owner ordered abroad, must sell, £115. Box No. 4114, care of "The Light Car and Cyclecar."

G.W.K.s from stock, on deferred terms; write for Buyers' Guide. Harrods, Ltd., Brompton Road, S.W. Trade zzz-614

G.W.K. light cars, always in stock for immediate delivery. Stewart and Ardern, 18 Woodstock Street (off Oxford Street). Bond Street, London, W. Trade 111-f37

G.W.K., two-seater, new, £150; also demonstration car, £125, exchange liberally considered. Collier's Motories, Halifax. Trade 102-f343

G.W.K., 1914, just repainted and upholstered, and thoroughly overhauled, really first-class, £115. The Uxbridge Motor Co., Ltd., 101 High Street, Uxbridge. 'Phone, 184 Uxbridge., Trade 104-389

G.W.K., 1913, good condition, in good order throughout, £95. The Uxbridge Motor Co., Ltd., 101 High Street, Uxbridge. 'Phone, 184 Uxbridge. Trade 104-390

G.W.K., 1913, recently repainted and upholstered, and thoroughly overhauled, 100 guineas. The Uxbridge Motor Co., Ltd., 101 High Street, Uxbridge. 'Phone, 184 Uxbridge. Trade 104-391

G.W.K., 1912, 8 h.p., four-speed and reverse, three electric lamps, fitted two-seater body, painted brown and upholstered to match, hood, screen and tools, recently thoroughly overhauled, £72 10s. Cass's, 'The Light Car and Cyclecar Specialists, 5 Warren Street, Euston Road, W. 'Phone, Museum 623.

Trade 102-476

G.W.K., two-seater, fitted with hood, screen, Stepney, head, side and tail lamps, just overhauled, in beautiful condition, £70. Smith and Francis. 22 Panton Street, Haymarket.

Trade 102-490

G.W.K., 1913, painted grey, hood, screen, five lamps, speedometer, Stepney, free trial, £85. Plastow, Grimsby.

Trade 102-494

G.W.K., 1913 model, engine recently overhauled, hood. screen, spares, and tools, oversize tyres on back wheels, £70 cash. C. B. Bell, 16 Breakespears Road, Brockley, London, S.E. 103-g417

G.W.K., 1914, new, £125, catalogue price £150. Eyles and Eyles, St. Aldates, Oxford. Trade 102-492 G.W.K., 1914, just repainted red, and done up, speedometer, 3000 miles, £110. Rathborne, Air Station, Felixstowe.

HILLMAN, 1914, guaranteed new, shop-soiled, £180. Smith and Francis, 22 Panton Street, Haymarket. Trade 102-491 HILLMAN 1914 light car, hood, screen, five lamps, spare wheel and tyre, etc., £150 cash. G. N. Higgs, 31 Vauxhall Bridge Road, Victoria, S.W.

HUMBERETTES, from stock, on deferred terms; write for Buyers' Guide. Harrods, Ltd., Brompton Road, S.W. Trade zzz 611

HUMBERETTE, 1913, complete with hood, screen, lamp, Stepney and tyre, just thoroughly overhauled and in perfect condition throughout, £65. W. J. Coe, Crown Street, Ipswich.

HUMBERETTE, new 1914 models in stock, air-cooled, £120; water-cooled, £135; exchanges arranged.
418 Romford Road, Forest Gate, E.

Trade 102-450

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

HUMBERETTE, 1913, in perfect order, done small mileage, painted primrose, tyres good, acetylene lamps, hood, screen, special undershield, price £70, bargain. Richardson, Holmwood, Darlington. 103-g191 Darlington. HUMBERETTE, 1912, air-cooled, excellent condition throughout, owner gone to the Front, £75. Samson and Veal, 12 Woodstock Street, Oxford Street. Mayfair 6826.

HUMBERETTE, 1914, water-cooled, perfect condition, all accessories, lamps, horn, etc., £80, complete, used for demonstration purposes only. Brookes and Co., 223 Oldham Road, Marshortest and Co., 223 Oldham Road, 224 Oldham Road Trade 102-g381 Manchester. Trade 102-g381 HUMBERETTE, 1913, perfect running order, £55, very great bargain. Julian, Broad Street, Reading. Biggest dealer in the South; 43 years reputation. Trade zzz 456 HUMBERETTE, 1914, fully equipped, slightly shop-soiled, £25 down, 12 monthly payments of £7; discount for cash. Service Co., 292 High Holborn. Trade 104-499 HUMBERETTE, 1913, 8 h.p., air-cooled, engine and gears very good, just repainted grey, extremely smart, complete with lamps, horn, and tools, accept £66, offers considered. King, Stapleford, Cambs. 102-g413 HUMBERETTE, painted light grey, a very fine car, in good condition throughout, hood, screen, speedometer, electric head. condition throughout, hood, screen, speedometer, electric head, tail and dash lamps, three oil lamps, tools, mats, etc., recently overhauled. £73. G. N. Higgs, 31 Vauxhall Bridge Road, Victoria, S.W. HUMBERETTE, 1914, water-cooled, hood, screen, speedometer, Stepney, lamps, easy payments accepted. W., 11 Raymead Avenue, Thornton Heath, London. 102-g368 HUMBERETTE, 1913, complete, hood, screen, Stepney, speedometer, clock, two new tyres, tools, splendid condition, £80 or near offer. 26 Hastings Road, Croydon. 102-g360 HUMBERETTE, 1914, water-cooled, fully equipped, extra large legalights, speedometer, tyres almost verfect, spore course. HUMBERETTE, 1914, water-cooled, fully equipped, extra large headlights, speedometer, tyres almost perfect, spare cover and tube, perfect running order, owner must sell, not done 2500 miles, £90. Apply, Captain Normand, care of Henshaw Travis, 16 Vauxhall Road, Liverpool. 103-g356 HUMBERETTE, air-cooled, recently overhauled, paintwork as new, in motor grey with black wings, acetylene headlight, electric sidelamps, speedometer, spare tyre, etc., smart little car, in perfect condition, £70. Write, L., 28 Streathbourne Road, Balbain, S.W. 102-g348 IMP cyclecar, 1914 model, almost new, cost £98, hood, screen, etc., complete, exceptional bargain, £49. Beardwood, Portman House, East Sheen, S.W. 'Phone, Richmond 1179.

Trade 102-473 LAGONDA, 11 h.p., coupé, detachable wheels, fully equipped, £150; also one demonstration model, many extras, £127 10s. £150; also one demonstration mode, Trade zzz-919 Taylor, Ltd., 21a Store Street, W.C. Trade zzz-919 LAGONDA, two-seaters, £15¢, £145; demonstration car, £122 10s., cash or exchange, any trial here. Motor Ex-LAGONDA, 1914, 10 h.p., four-cylinder, three-speed and reverse, gate change, fitted with coupe body, painted green and upholstered to match, five quick-detachable wheels and tyres, five lamps and generator, clock and mirror, in excellent condition, the very thing for the winter, £115. Cass's, The Car and Light Car Specialists, 5 Warren Street, Euston Road, W. Museum 623. Trade 102-477 LAGONDA, 1915, 10 h.p., four-cylinder, three-speed and reverse. coupe body, five Sankey wheels, tyres 700 by 80, five lamps and generator, for immediate delivery, £150. Cass's, The Light Car and Cyclecar Specialists, 5 Warren Street, Euston Road, W. 'Phone, Museum 623. Trade 102-478 LAGONDA coupe, four-cylinder, 11 h.p., three months old, detachable wheels (Sankey), and one spare, all new tyres, speedometer, clock, electric, side and rear lamps, spare oil lamps if required, gas headlights, tools and all extras complete; the car in perfect running order, owner going abroad, good bargain, what offers? W. W. Mathie, 221 Barcombe Avenue, Streatham Hill, S.W.

102-g362 MORGAN Grand Prix monocar, 90 bore, air-cooled twin J.A.P. engine, all tyres in splendid condition, 700 by 80 covers, painted white and black, guaranteed to lap Brooklands at 50 m.p.h., two headlamps and generator, offers. Box No. 4204, care of "The Light Car and Cyclecar." zzz-166 MORGANS, sporting type and Grand Prix, slightly shop-soiled, cash offers or exchanges wanted. Collier's Motories, Westgate, Halifax. Trade 102-f345

### LIGHT CARS AND CYCLECARS FOR SALE

MORGAN, 1914, Grand Prix, finished in yenow, certificate in General Efficiency Trial, £90. The Uxbridge Motor Co., Ltd., 101 High Street, Uxbridge. 'Phone, 184 Trade 104-502 MORGAN, 1913, sporting, £70. The Uxbridge Motor Co., Ltd., 101 High Street, Uxbridge. 'Phone, 184 Uxbridge. Trade 104-393

MORGAN, 1912, property of officer in France, excellent running order, good condition, recently overhauled, Harrod's body, roomy, upholstered seats, hood, screen, lamps, speedometer, 1914 B. and B. carburetter, good tyres, cost £120, accept £65. Mrs. Barnes, The Cedars, Hartley Wintney.

MORGAN, 1913 standard, £65. The Uxbridge Motor Co., Ltd., 101 High Street, Uxbridge. 'Phone, 184 Uxbridge. Trade 104-394

MORGANS. Now is the time to order or purchase your 1915 model; extraordinary demand presently. I can deliver all models just now from stock; works working until 7 p.m. every day just keep pace with present demand; your inquiry and inspection invited. Potter, Leicester Grove, Blackman Lane, Leeds. Tel., 4046.

MORGANS de liver grandid condition speedwarter bed MORGAN de luxe, splendid condition, speedometer, hood, screen, lamps, spares, 60 guineas. 129 Stephendale Road, Fulnam.

MORGAN, Grand Prix, July, 1914, grey, hood, screen, lamps, extras, refinements, £100, no offers. G. Brymore, Leckhampton Road. Cheltenham.

hampton Road, Cheltenham.

102-g388
MORGAN, 1913, standard, hood (new Pluviusine leather),
screen, two P. and H. headlights and generator, tail lamp, screen, two P. and H. headinghts and generator, but all Cowey speedometer, good tyres, recently overhauled, revarnished and reupholstered, £70, open to close offer. G. N. Higgs, 31 Vauxhall Bridge Road, Victoria, S.W.

Trade 102-467

MORGAN runabout, 1913 sporting model, perfect order, new tyres, accept £67 10s. The Colmore Depot, 49 John Bright Street, Birmingham. Trade 102-439 MORGANS, 1915 models for immediate delivery. Best terms for cash; exchange or easy payments. Elce and Co., 15 Bishopsgate Avenue, Camomile Street, London, E.C. 'Phone, Avenue 5548. Trade 102-496 MORGAN, 1913, sporting, very fast, special 90 by 77½ J.A.P.

engine, 3 in. tyres all round, upholstered real pigskin, mechanically as new throughout, little used, lamps, tools, all spares, sacrifice £75. 5 Fife Road, Darlington. 102-g406 MORGAN, late 1913 sporting, inside gear change, hood, screen, acetylene head, electric side and rear lamps, 3 in. front. 85 mm. Kempshall back, speedometer, £65. Stacey, front, 85 mm. Kempshall back, speedometer, £65. Stacey, 2a Replingham Road, Southfields, S.W. 102-g403

2a Replingham Road, Southfields, S.W. 102-g403
MORGAN, going cheap, 1913, sporting, hood, screen, two
large F.R.S. lamps, Lucas rear lights, horn, speedometer,
two large tool boxes, 1914 back mudguard, all tyres good,
body repainted buff, upholstered back of seat and cushions to
match body, mats, spares, £65 the lot, will ride to likely
buyer. Walbro, Lynn Road, Ely. Trade 102-g359
MORGAN, 1913, grey, sporting, recently overhauled, repainted, reupholstered, complete lamps, Watford, hood, screen,
perfect nearest £75; trial by appointment. Williamson,
Cromwell House, Twickenham. 103-g352
MORGAN de luxe, November, 1913, under 7000 miles, 9 h.p.
90 degrees J.A.P., Harrod's body, side doors, painted biscuit,
lined brown, luxurious brown upholstery, handle-starting at
front, 3 in. Palmer cord, new at back, 2½ in. Kempshall, good
front, hood, screen, lamps, speedometer, spares and tools
appearance and condition splendid, climb anything, £68.
Baskerville, Oakdene, Mottram Road, Matley, Stalybridge.
102-g349

MORRIS-OXFORD. For quick deliveries write to H. W. Cranham, Wholesale and Retail Agent, 221 Deansgate, Man-Trade 112-583 chester. chester. Trade 112-88 MORRIS-OXFORD light cars, always in stock for immediate delivery. Stewart and Ardern, 18 Woodstock Street (off Oxford Street), London, W. Trade 111-f36 MORRIS-OXFORD, 1914 model, cabriolet de luxe, built specially to connoisseur's requirements, C.A.V. electric lighting outfit, two-seater, can seat three, in perfect order, only used for town work, ideal for doctor, can be seen in London, and trial run given at any time, cost £270 in April Box No. 4343, care of "The Light Car and Cyclecar."

zzz-353

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

MORRIS-OXFORD, sole agents for Surrey and parts of Sussex and Hampshire, the quality light car, best delivery dates, free tuition, etc. The Haslemere Motor Co., Ltd., Haslemere. 'Phone, 43. Trade zzz.261 ORIENT, 8 h.p. J.A.P., three speeds, central chain drive, differential, worm and sector, screen, lamps, etc., new, done 700, £60. Turner, St. Peter's, Mill Hill, Blackburn. 102-g390 PERRY, 1915, four-cylinder, 11.9 h.p., Lucas electric lighting set, 200 guineas, immediate delivery, cash or easy terms. Campion Depot, Moor, Sheffield. Trade 139-689 PERRY light cars, trial runs arranged; also Humberette, Morgan, and Marlborough. Turpins, 22 and 29 Preston Road, Brighton. Trade 125-1356 PERRY, 9 h.p., two-seater, hood and screen, side and tail lamps, spare wheel and tyre, new June, 1914, used for demonstration purposes only and in perfect order, any trial, price £126. Box No. 4344, care of "The Light Car and Cyclecar."

PERRY, 1915, delivery next week of 11.9 four-cylinder model, with electric lighting set and dickey seat, price 205 guineas. Julian, Broad Street, Reading. Biggest dealer in the South. 43 years reputation.

Trade zzz-346 PERRY, complete, with lamps, horn, spare wheel and tyre, slightly shop soiled, £50 down and balance in 12 monthly instalments of £8; wonderful bargain. Julian, Broad Street, Reading, biggest dealer in the south, 43 years reputation.

Trade zzz-379

PERRY, four-cylinder, the sensation of 1915; two-seater, 190 guineas; quick delivery. Yorkshire Agents, Central Garage, Ltd., Leeds. Trade 102-434 PERRY, 1914, 9 h.p., two-cylinder, water-cooled, three-speed and reverse, two-seater body, painted and upholstered green, hood, screen, five lamps and tools, five Sankey wheels and tyres, clock, mirror, in splendid condition, £115. Cass's, The Light Car and Cyclecar Specialists, 5 Warren Street, Euston Road, W. 'Phone, Museum 623. Trade 102-481 PERRY. Startling proposition for 1915. We can give delivery of the four-cylinder model immediately, complete with electric-lighting set and dickey seat. Write for full particulars. Julian, 84 Broad Street, Reading. Biggest dealer in the south; 43 years' reputation. Trade zzz-500 PERRY, 1915, 12 h.p., four-cylinder, three-speed and reverse, gate change, two-seater body, hood, screen and dynamo lighting outfit, five lamps, £210, delivery 10 days. Cass's, The Light Car and Cyclecar Specialists, 5 Warren Street, Euston Road, W. 'Phone, Museum 623. Trade 102-479 PEUGEOT, 6 h.p., single-cylinder, re-upholstered, repainted French grey, side doors, scuttle dash, windscreen, new hood, new acetylene lamps, good tyres, £35. Conan House, 6 Edith Villas, West Kensington. 102-g358 RANGER, 1914, fully equipped, just delivered, £23 down, 12 monthly payments of £7 17s. 2d. Service Co., 292 High Holborn. Trade zzz-340 ROLLO, 1913, two-seater, 8 h.p., J.A.P. engine, hood, screen, 1 PERRY, 1914, 9 h.p., two-cylinder, water-cooled, three-speed born.

ROLLO, 1913, two-seater, 8 h.p., J.A.P. engine, hood, screen, lamps, horn, speedometer, etc., £55. Eastern Garage, 418 Romford Road, Forest Gate, E.

ROLLO cyclecar, 8 h.p., J.A.P., twin, B. and B. control, Bosch magneto, wheel steering, seats three, four-wheeler, variable gears, lamps, horn, screen, hood, three nearly new tyres, one brand new, two spare tyres, upholstered in green, painted blue, spares, in splendid condition, grand engine, accept first offer £30, a bargain, must sell. Joseph Wood, Pelton House, Pelton S.O., Durham.

102-g354

SABELLA latest cyclecar, 8-10 J.A.P., water-cooled, Bosch, SABELLA latest cyclecar, 8-10 J.A.P., water-cooled, Bosch, hood, screen, nearly new, sacrifice £45; easy terms. 1 Ebner Street. Wandsworth. Street, Wandsworth. SAXON! SAXON!! SAXON!!! The super-excellent light car, 10 h.p., four-cylinder, two-seater, complete, 100 guineas. Communicate with the pioneer agents, Western Motor Works, Chislehurst, Kent. SAXON, 10 h.p., for sale, nearly new, £90 or near offer. Reece Garage, Reece Mews, Sussex Place, South Kensington, S.W. 'Phone, Ken. 6294. Trade 103.443 SINGERS, from stock, on deferred terms; write for Buyers' Guide. Harrods, Ltd., Brompton Road, S.W. Trade zzz-612

SINGER, 10, four-cylinder light car, late 1913, exceptionally well fitted up, C.A.V. dynamo lighting set, hood, screen, speedometer, clock, etc., any trial, splendid order, bargain, £125. 77 Tower Ramparts, Ipswich. Trade 102-g377

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

SINGER, 10 h.p., 1913 model, painted French grey, complete with speedometer, clock, ctc., first-class running order, must sell at once, owner bought sporting five-seater, £115. Fruit Merchant, 84 High Street, Smethwick. 102-g399 SINGER, 10 h.p., coupe, painted reddish brown, picked black, recently overhauled and repainted, upholstered Bedford cord, spare wheel and tyre, speedometer, five lamps, inside lights, sundry interior fittings, tools, etc., as good as new, cost £260, accept £175. G. N. Higgs, 31 Vauxhall Bridge Road, Victoria, S.W. 102-466 SINGER, 10 h.p., 1914 model, dynamo lighting set, clock, speedometer, spare wheel and tyre, etc., in perfect order throughout, any reasonable trial with pleasure, price £145. Apply, Hardie, 10 Upper St Martin's Lane, W.C. 'Phone, Regent 5444. Trade 102-497 SINGER light car, 1915, with dynamo lighting set, hood, screen, horn, 195 guineas; motorcycle or light car taken in part exchange. Easy terms arranged. Julian, Broad Street, Reading. Biggest dealer in the south; 43 years' reputation.

SINGER light cars in stock, fully equipped, £195; with dynamo lighting, 195 guineas; exchanges arranged. Eastern Garage, 418 Romford Road, Forest Gate, E. Trade 102.452 SINGER light car, 1914 de luxe model, in excellent condition, dynamo lighting, hood, screen, spare wheel and tyre, horn, speedometer, clock, mirror, Klaxon horn, etc., £160. Eastern Garage, 418 Romford Road, Forest Gate, E.

Trade 102-453
STANDARD 9.5 h.p. light car, complete with fittings, condition as new, price £160. Apply Box No. 4434, care of "The Light Car and Cyclecar." 102-448
STANDARD 1915 model, in stock for immediate delivery, price £195, dickey seat and grooved tyres £4 extra. Motorcycle or light car taken in part exchange. Julian, Broad Street, Reading. Biggest dealer in the south; 43 years' reputation. Trade zzz-459
SWIFT light car, 7 h.p., 1914, done under 1000 miles, new, Stepney and studded tyre, spare tube and tyre, clock, etc., offers, no agents. Box No. 4433, care of "The Light Car and Cyclecar." 102-g376
SWIFT, 8-10 h.p., three speeds and reverse, perfect running, suit tradesman, accept £30 to clear. Colmore Depot, 49 John Bright Street, Birmingham. Trade 102-440
SWIFT, 1915, 10 h.p., four-cylinder, three-speed and reverse, gate change, two-seater body, hood, screen, Rotax dynamo lighting outfit, five lamps, five Sankey 700 by 80 wheels and tyres, delivery two weeks, £200. Cass's the Car and Light Car Specialists, 5 Warren Street, Euston Road, W. 'Phone. Museu.n 623. Trade 102-482
SWIFT light car, new 1914 model in stock, fully equipped, £140, exchanges arranged. Eastern Garage, 418 Romford Road, Forest Gate, E. Trade 102-454
SWIFT light car, 1913, hood, screen, speedometer, extra-air, exhaust whistle, Stepney, three lamps, horn, tools, filler, etc., recently painted, 4000 miles, excellent running condition, £100. Smith, 65 Marine Parade, Sheerness. 102-g391
SWIFT cyclecar, 1914, perfect condition, usual equipment, Stepney and mats, tyres good, no smarter machine on road, £115 cash, owner larger car. Danthorpe House, Goole.

SWIFT, 1914, new June, complete equipment, Stepney, clock, speedometer, side curtains, luggage carrier, etc., perfect condition, bargain, £110. Bowley, 22 Lansdowne Grove, Neasden, N.W.

102-g402
SWIFT, 1914, light car, 7-h.p., done 3000, perfect condition, all tyres unpunctured, Stepney wheel (unused), electric light, speedometer, etc., etc., just repainted blue and black, will exchange for a good four-seater, not later than 1913, or would sell. Green. 64 Cranhurst Road, Willesden Green. 102-g350
TURNER light car, 1913, 10 h.p. four-cylinder engine, hood, screen, headlights, horn, etc., £95. Eastern Garage, 418
Romford Road, Forest Gate, E.

TWEENIE, two-seater, four cylinders, light car, complete hood, screen, electric side and tail lamps, very smart and fast, £115, cost £160 four months ago, real bargain. Apply 247 Vauxhall Bridge Road. 'Phone, 5486 Victoria. 103-g389
VICTOR, 8 h.p., 1914, water-cooled cyclecar. £115: ditto, second-hand, £87 10s., cash offers or exchange considered. Collier's Motories, Westgate, Halifax.

Trade 102-f340

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

VICTOR cyclecar, 1914, brand-new model, two speeds and reverse, list price £115, sacrifice £100. Eneter Motor Cycle and Light Car Co., Ltd., 7 Bath Road, Exeter, and 28 Tavistock Road, Plymouth.

#### MISCELLANEOUS LIGHT CARS AND CYCLECARS.

BRIGHTON. Perry, Humberette, Morgan, Marlborough. Trial runs given. Easy terms arranged. Turpin, 22 and 29 Preston Road. Preston Road. BARGAINS in Morgans, G.W.K.s and other cyclecars and light cars at Spencer's Garage, Uxbridge. Trade 132-36 G.N., 8 h.p., £54 10s.; 8 h.p. Sabella-J.A.P., £49 10s.; A.-C. Sociable, £42; 8-10 twin Bedelia, £39 10s.; cash offers A.-C. Sociable, £42; 8-10 twin bederic, 200 considered, everyone guaranteed. Motor Exchange, West-Trade 102-f341 MORGANS, Saxons, Swifts, Calthorpes, sporting Morgan, only done 200 miles, £87; also Grand Prix, water-cooled, £90; Swift, 1914, £120, almost as new; Calthorpe, 1914 Duke Michael, offers; Saxon, four-cylinder, two-seater, special model, £107 10s. Stevens, 184 Pentonville Road, King's Trade 102-501 CASS'S Motor Mart, the acknowledged light car and cyclecar specialists, can give you immediate delivery of 1915 Lagonda, and earliest delivery of 1915 A.-C., Morgan, Perry, Swift, and any other make, and can supply several new and secondhand 1914 light cars and cyclecars at bargain prices, write for list. The Light Car and Cyclecar Specialists, 5 Warren Street, Euston Road, W. 'Phone, Museum 623. Trade 102-483 8 h.p. TWO-CYLINDER water-cooled light car, Morgan type, three speeds, reverse, front wheel brakes, hood, screen, electric lamps, horn, quiet and fast, wants seeing, £50. 249 Coldharbour Lane. Trade 102-g412 CYCLECAR, two-cylinder, 8-10, White and Poppe engine, magneto, Senspray, three speeds and reverse, shaft drive, hood, screen. Stepney, newly painted and upholstered, excellent condition, sacrifice £45; seen and tried at the Dulwich Motor Works, Lordship Lane, S.E. 102-g371

#### FOR HIRE.

REECE Garage. Cars for hire, two-seater, landaulets, touring cars. 8 Reece Mews, Sussex Place, S.W. 'Phone, Ken. Trade 103-444

#### 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 Road, Leytonstone, London. Trade zzz-505 VALVE-GRINDING compound, fast cutting, clean finish, 10 years reputation, no emery; large tin, 7½d. post free. Williams NEW, guaranteed worm-driven back axles, suitable for cars up to 12 cwt., 4 ft. track, complete with hubs, price £24 cash; also radiators at clearance prices.

Trade 118-b923

Trade 118-b923

Trade 222-43

Tunners, Lever

Trade zzz-43 SPECIAL chassis, special parts, or complete cars built to specifications, repairs, oxy-acetylene welding, wheel building, gear cutting, accurate machining. M'Connochie and Russell, Engineers, 210 Wellington Street, Leeds. Trade 103-d140 SPECIAL line. Brand new two side and tail electric lamps, heavy brass or nickel-plated, latest torpedo design, best Eng lish make, complete with Osram metallic filament bulbs, armoured wire to each lamp, tumbler switch and 25-ampere hour actual lighting capacity Essex accumulator in metal case, the whole set ready for immediate use, 54s. Send for illustrated catalogue to the Essex Accumulator Co., 497-499 Grove Green Road, Leytonstone, London, N.E.

Trade zzz-506 Green Road, Leytonstone, London, N.E. Trade zzz-506 RUG, motor, large, black fur, well lined, worth £4, sell 32s. 6d. Lennard, 64 Great Portland Street, W.

LANGLEY, Sheet Metal Specialists; radiators, any pattern, made and repaired; bonnets, tanks, wings, panels, etc., maker of the famous all-metal bodies. Unity Works, Malvern Link.

Trade 114-g379

### MISCELLANEOUS (continued).

SECOND-HAND goods. Are you making your own cycle-car? Send postcard for prices of engines, gears, carburet-ters, clutches, mudguards, etc. Carden, 61 Somerset Road, Teddington. Trade 102-g383 Teddington. ROLLO cyclecar, three-seater, everything complete, less engine, offers invited, or sell parts, viz.: Back axle, brake drum' and wheels, 10s.; front ditto, 8s. 6d.; tubular chassis (requires slight repair), 10s.; three-seated body, 15s.; adjustable mahogany and brass screen, 9s. 6d.; ditto screen complete, 9s. 6d.; petrol tank, 4s.; steering wheel, 4s.; 10 ft. 6 in. Service belt, 6s. 6d.; Whittle, 6s.; several other parts, write requirements. Clapham, King George Street, Greenwich.

EPICYCLIC two-speed gear complete, o it. shell chair, 32, 16 in. mahogany aluminium wheel, 5s.; pair new dome mudguards, 3s.; 26 by 2½ Lomax non-skid, 10s.; 8 in. J.A.P. pulley, 5s.; Indian carburetter, 7s. 6d.; F.N. automatic, 5s.; ball-bearing countershaft, 10s. N. Kinbrae, Torquay.

102-g392 EPICYCLIC two-speed gear complete, 5 ft. silent chain, £2;

CYCLECAR chassis, 7 ft. 6 in. wheelbase, 3 ft. 10 in. track, tubular, Sizaire front springing, chain, differential, wire wheels, and brakes, armature built boat body with steering, large nickel headlamp and generator, £10 10s.; four 26 by 3 in. Avon Sunstones and tubes, done 30 miles, £8, or £18 the let including fitting of the let. the lot, including fittings, etc. Letters, 100 Blackheath Hill, 102-g395 SHOP-SOILED components, rear axle with wheels and belt rims, £1 19s. 6d.; pair 6 by 1 in. pulleys, 5s.; pair ball hubs, 18s.; pair 7 in. Skefko ball bearings, 7s. 6d. Bradwell, Sandgate Road, Folkestone.

Trade 102-g396 MONOCAR chassis, adaptable for tandem sear, not completely four-cylinder, small engine, friction drive, low, light, engineer designed and made, parts alone cost over £15 without labour, seen by appointment only, £10 or offer. "Newlyn," Lynton 102-g365 MONOCAR chassis, adaptable for tandem seat, not complete,

#### AUCTION.

PALMER'S Garage and Motor Auction Rooms, Merton Tram Terminus, Tooting, hold auctions fortnightly. Next six sales Wednesday, November 11th, 25th; December 9th, 23rd; January 6th and 20th at 2 o'clock. Terms:—no sale no charge;  $7\frac{1}{2}$  per cent. only if sold; free fire insurance; cash offers made; exchanges; catalogues post free regularly on application. The auction sale always includes about 30 motor cycles.

#### CARBURETTERS.

SECOND-HAND Solex, Cox Streamline, etc., 25s. each, shop-soiled Amac automatic 17s. 6d. each, all latest models, equal to new. Carden, 61 Somerset Road, Teddington. Trade 102-g385

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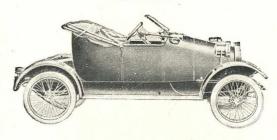
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