

# The Light Car and Cyclecar

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Vol. VIII, No. 183  
22<sup>nd</sup> May 1916  
*Registered at the G.P.O.  
as a Newspaper.*



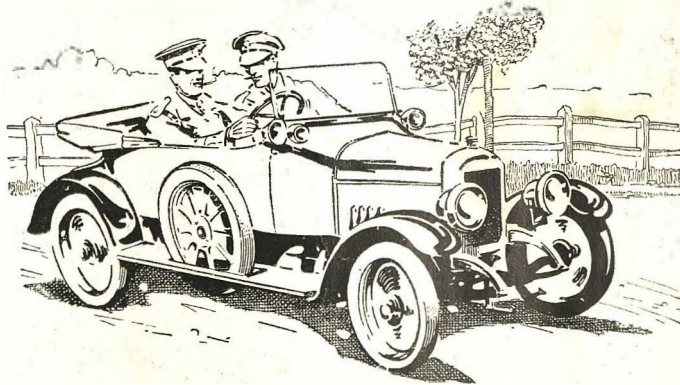
Under Colonial Conditions

# The "Famine" in Chauffeurs and Mechanics

**H**ALF the pleasure of motoring is the possession of a car you can drive and keep in order yourself. And under existing conditions, with a famine in chauffeurs and motor mechanics, this pleasure becomes an advantage that can scarcely be over-estimated.

No car is more easily driven and more easily looked after than the CALTHORPE Minor. With proper care in lubrication and attention to minor adjustments, it practically looks after itself. It is as conspicuous by its absence from the garage repair-shops as by its predominance on the road.

Prices from - **185** Gns.



**NOW, if ever, is the time to secure your**

## Calthorpe

MINOR—10 H.P.

The CALTHORPE MOTOR CO. (1912), Ltd., Bordesley Green, Birmingham.

"As reliable as your Electric System at Home."

# The Brolt

The Brolt System is a British Invention, British Made, and British Owned.

## ELECTRIC LIGHTING & STARTING SYSTEM.

The installation of the BROLT Electric Lighting and Starting Equipment on your car calls for a comparatively small outlay. Its cost is infinitesimal compared to the added safety and comfort it affords. British throughout.

The "Brolt" Catalogue contains much instructive information on the electrical equipment of Motor Cars. Every page is of absorbing interest to motorists who are contemplating the installation of a dynamo lighting or electric starting system. Write for a copy to address below.

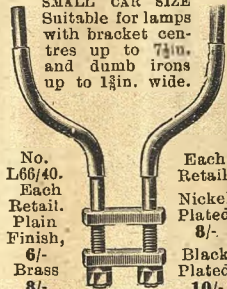
The Brolt in the engine starter with the positive gear drive.

"The SUCCESS" Decarbonising Tools. The simplest method of rapidly and effectually removing the carbon deposit from an engine yet devised. Consists of two hardened and tempered flexible steel scrapers; one for the piston and the other for the head of cylinder, also a short scraper for clearing out the orifices, and a stiff bristle brush for taking out the particles of carbon from the ports.

A 4-cyl. engine can be quickly cleaned and ready for the road again. Complete in canvas case. Per set, 8/- (Retail).



**ADJUSTABLE LAMP BRACKET**  
SMALL CAR SIZE  
Suitable for lamps with bracket centres up to 7 1/2 in. and dumb irons up to 1 1/2 in. wide.



No. L66/40. Each Retail. Plain Finish, 6/- Brass 8/-

Each Retail. Nickel Plated, 8/- Black Plated, 10/-

### The "DUCO" GAITER

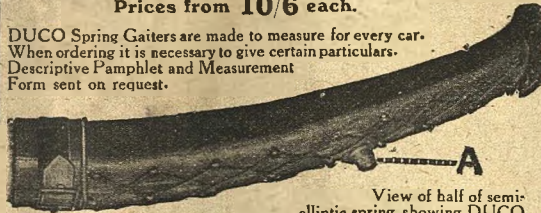
For Motor Car SPRINGS.

(Joseph's Prov. Patent.)

A flexible covering or protective casing, preserving the springs from dust, mud, and water, at the same time maintaining a constant supply of lubricant. The DUCO Gaiter is not a mere bandage, but a flexible sheath containing grease which constantly works through the leaves, giving the car a fine silky movement. When once fitted, need not be removed, but simply replenished with grease from time to time. Suitable for all types of springs.

Prices from 10/6 each.

DUCO Spring Gaiters are made to measure for every car. When ordering it is necessary to give certain particulars. Descriptive Pamphlet and Measurement Form sent on request.



View of half of semi-elliptic spring, showing DUCO Spring Gaiter attached. "A" is lubricator where grease is injected.

### SPARTON WARNING SIGNALS

—the dominating Motor Alarm.

The Sparton Signal has an imperative voice that commands attention and compels action. No mistaking the SPARTON "Ya-hoo-ta." It jolts the air with a threat of danger, sharp and insistent.

When motoring along narrow country roads, round sharp curves where the view is obstructed, the far-reaching call of the SPARTON is positively necessary.

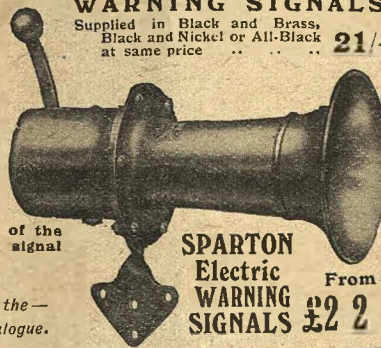
#### SPARTON Hand-Operated WARNING SIGNALS

Supplied in Black and Brass, Black and Nickel or All-Black at same price 21/-

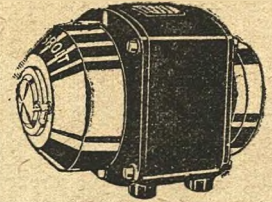
It rouses the sleepy driver in time for him to draw aside before you overtake him—time is saved and danger averted.

Call at your local garage, try a Sparton, and feel the thrill that goes with the ownership of the best warning signal in existence.

—Write for the—  
Sparton Catalogue.

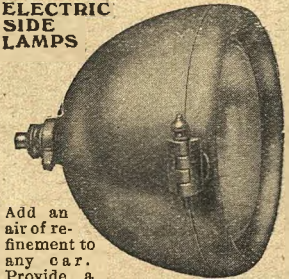


**SPARTON Electric WARNING SIGNALS** From £2 2 0



**Autoclipse**  
REGISTERED TRADE MARK

**ELECTRIC SIDE LAMPS**



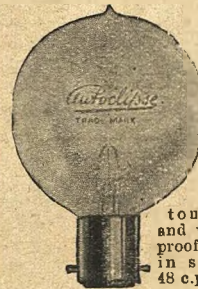
Add an air of refinement to any car. Provide a powerful, concentrated beam for illuminating distant objects, and at the same time the requisite amount of dispersion for lighting the road immediately in front of the car.

Prices on Request.

#### AUTOCLIPSE ELECTRIC BULBS.

Give an exception. ally brilliant light, and are very economical in current consumption.

The drawn wire filament is tough, durable and vibration-proof. Supplied in sizes up to 48 c.p.



Made in all sizes and shapes. Write for Autoclipse Bulb Catalogue.

TRADE MARK

Head Offices and Warehouses:

**GREAT EASTERN STREET, LONDON, E.C.**

And at PARIS.

# BROWN BROTHERS LIMITED

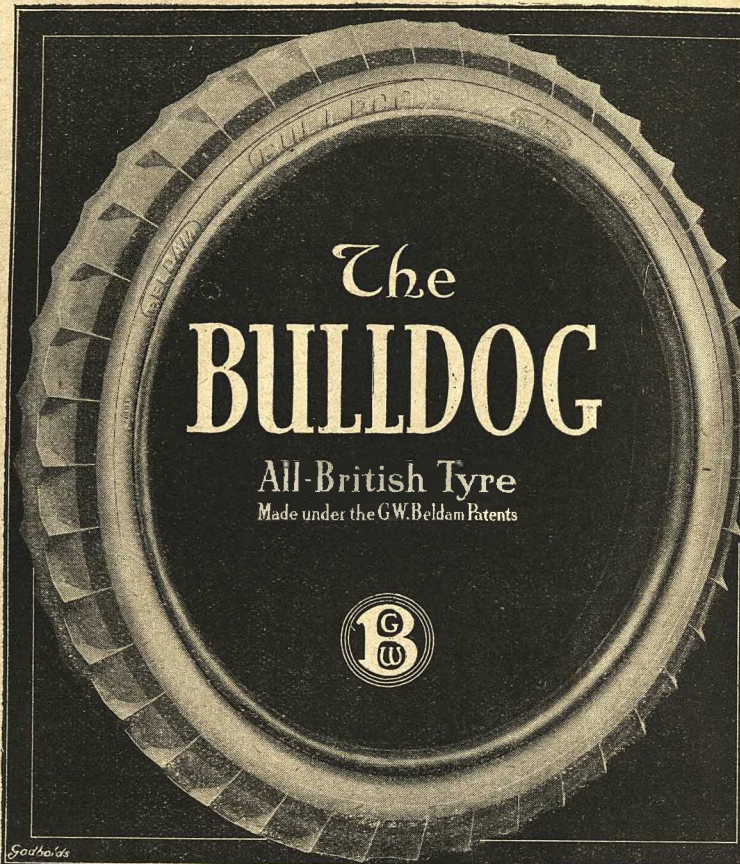
North of England Depot:

**DEANS GATE, MANCHESTER**

Showrooms:

**15, NEWMAN STREET, W.**

The Accessories and Equipment illustrated on this page are obtainable from all Motor Dealers and Garages. In case of difficulty communicate direct with our Showrooms: 15, Newman St., W.



## THE "BULLDOG"

Tyre is made with the scientific Beldam design of rubber tread—which affords an unparalleled road-grip. It is built to a very high standard at a moderate price—there is no other tyre which gives so much quality value for money.

Note the prices quoted and send your order to-day. All standard sizes stocked; write for complete list.

Size.	Price.	Code Word.
650 x 65	£1 10 9	Busser
700 x 80	1 14 0	Buvus
700 x 85	1 15 0	Buvox
710 x 90	2 9 9	Butis
760 x 90	2 14 3	Burgus

**THE BELDAM TYRE CO., LTD.**  
Brentford, Middlesex.

Agent for New Zealand: J. E. Fitzgerald,  
139, Lambton Quay, Wellington.

## ORDER FORM.

.....1916.  
To..... (Newsagent).  
.....

Please reserve for me each week a copy of "THE LIGHT CAR AND CYCLECAR," for which I will call.

(Alternatively)

Please deliver a copy of "THE LIGHT CAR AND CYCLECAR" to me each week, until further notice.

Name.....

Address.....  
.....

# NOTICE.

There is not, and is not  
going to be, any shortage in  
 Sparking Plug Insulators.

## We Challenge

the anonymous firm who arrogate to themselves the title of Mouthpiece of the Trade, and have stated in trade publications, and to the Department of Import Restrictions (with the object of having the present restrictions removed), that:

*"Reliable plugs cannot be obtained as hitherto,"*  
 and

*"... there is no reliable porcelain to be purchased in this country,"*

\_\_\_\_\_ to disclose themselves and to prove their statements.

The restriction *proves* the difference between "British Made" and "*Made British*" plugs. Those firms assembling foreign made insulators and parts into so-called British Made sparking plugs will be identified by the shortage of their supplies.

# SPHINX

—ENGLAND'S MOST DURABLE PLUG.

MADE BY THE SPHINX MANUFACTURING Co., BIRMINGHAM

**TO THE  
 READER**

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

L. 2

IN THE SMALL HIGH-SPEED MACHINES  
as fitted in most

## LIGHT CARS

it is particularly important to use Lodge Plugs  
because:—

The power of a modern light car engine depends directly upon its running efficiency.

The least drop below maximum efficiency tells at once. The difference in "pull" is far more marked than in the case of larger, slower running engines.

Spark efficiency has a direct bearing upon engine efficiency, and therefore none but the very best plugs should ever be used in light cars.

The Standard Model

# LODGE PLUG.



4/- of all Dealers.

# STEPNEY

## WHEELS & TYRES.



Immediate delivery can now be given of Stepney Combination Wheels for Ford Cars having 30 x 3 front and 30 x 3½ back Wheels.



The most successful All-Rubber Non-skid Tyre. Grips the road better and wears longer than Steel-studded.

**THE STEPNEY SPARE MOTOR WHEEL, LTD.,**  
Stepney Works, LLANELLY. And of all Garages, etc. 168, Gt. Portland St., London, W.

# Confidence

The big - handsome - long - lived - trustworthy Goodyear Tyres add confidence to your motoring.

The tough rubber diamonds bite deep down to the actual road - substance, so that every one of the treads gets its skid-resisting grip.

The diagonal grooves make an outlet for mud or dust to be forced out of the way as the tyre revolves.

Treads without an outlet merely make pretty patterns on the road—the Goodyear Tread clears a path for itself and Grips—Grips—Grips.

# GOODYEAR



## ALL-WEATHER-TREAD TYRE.

THE GOODYEAR TYRE & RUBBER CO. (Gt. Britain), LTD.

Central House, Kingsway, London, W.C.

Branches at Manchester, Birmingham, Glasgow, Dublin, and Belfast.

Canadian Factory: Bowmanville, Ontario.



TO THE  
READER

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

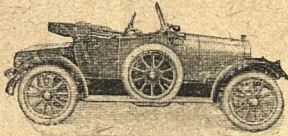
E. 1

# R. E. JONES

## GARAGES LTD

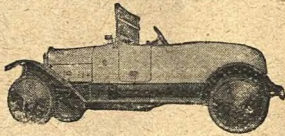
### THE LIGHT CAR SPECIALISTS

6 GUINEA TAX.



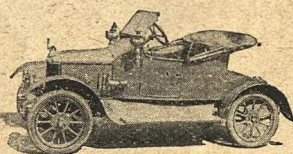
101  
Late 1915 **SINGER**, dynamo lighting set, new condition .. £240

6 GUINEA TAX.



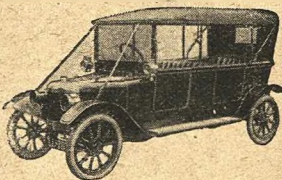
108  
1916, 10 h.p. **CALTHORPE**, sporting model, with special engine, detachable wheels with spare and tyre, Rally discs channelled black, body white enamelled, detachable hood, Brolt dynamo lighting set (nominally second-hand) .. £260

6 GUINEA TAX.



109  
1914, 9.5 h.p. **STANDARD**, with Rhyll body, detachable wheels, spare and tyre, acetylene headlamps, separate generator, 41 side and 11 lamps, just repainted azure blue, and in perfect mechanical condition .. £185

6 GUINEA TAX.



110  
Late model 4-seater **LAGONDA**, done very little mileage, condition as new .. £170

— WE ARE —

## CASH BUYERS for Modern Light Cars

NEW CARS.

**SINGER**, standard model, just delivered, dynamo lighting ... .. £250

**McKENZIE**, just delivered, C.A.V. dynamo lighting .. £220

**G.W.K.**, standard model ... 185 Gns.

**SAXON**, self-starter and electric light ... .. £175

**WHITING-GRANT**, electric light ... .. £160

**BABY PEUGEOT**, sporting model, fitted with hood, screen, and boot ... .. £165

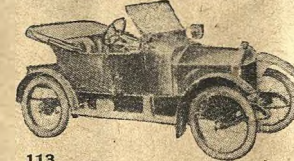
*Delivery Charges Extra.*

6 GUINEA TAX.



111  
**BABY PEUGEOT**, with our special design body, racing model, disc wheels, hood, screen, speedometer, many extras, scarcely used. Property of an officer .. £180

6 GUINEA TAX.



112  
7.0 h.p., 2 cyl. **SWIFT** cyclecar, 1913 model, 3 speeds, a.d. reverse, s.a. gear seats, luggage box at rear, Stewart speedometer, horn, acetylene sidelamps with generator, large ditto headlamps with generator, clock, repainted Norfolk Grey, splendid condition .. £95

6 GUINEA TAX.



113  
7.0 h.p. **SWIFT**, wide 2-seater body, single cylinder, accumulator and Bosch magneto, hood, double folding screen, horn, Stearny with 16 Dunlop avd. Car repainted dark green, and in splendid mechanical condition. Tyres good .. £50

6 GUINEA TAX.



115  
1915 **LAGONDA**, coupe, in new condition, guaranteed perfect .. £140

**LONDON: 143-5, Gt. Portland St., W.**

**CARDIFF: City Road.**

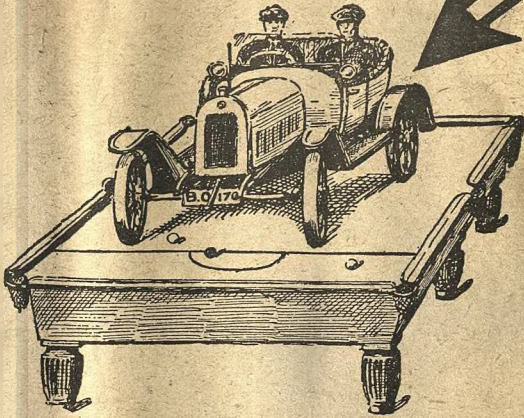
**SWANSEA: (Head Office) Dillwyn St.**

Telephone: Mayfair 2826.  
Telegrams: "Erjonegara, Wesdn."

Telephone: 4686.  
Telegrams: "Petrol, Cardiff."

Telephone: 1301 Central.  
Telegrams: "Petrol, Swansea."





## If all Roads were like Billiard Tables

"J.M." Shock Absorbers would not be required. As it is, they are a vital necessity to every owner of a light car.

Over 100,000 cars already fitted.

*The light car's great trouble is that on anything but a billiard table it bumps the occupants about on the road like peas on a hot plate. . . . Tyre wear and chassis strains then become abnormal . . . . But the owner feels it more in his spine than in his pocket.*

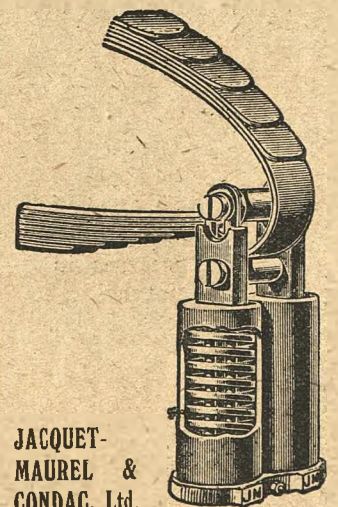
Save both your spine and your pocket—Fit

# J.M.

## SHOCK ABSORBERS

They repay their cost in half a season.

Any Agent will fit them in 20 minutes.



JACQUET-MAUREL & CONDAC, Ltd.

"J.M." Works, Bloemfontein Road, Shepherd's Bush, W.

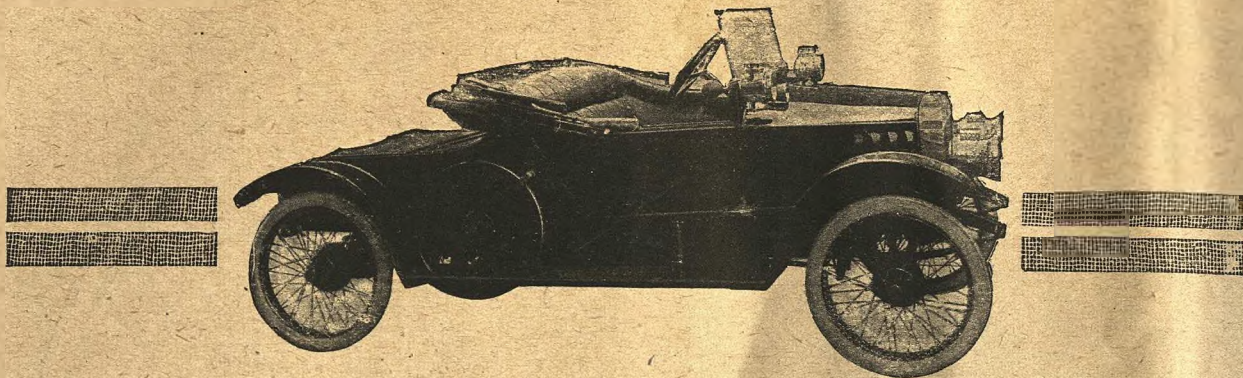
Telegrams—"Jayemshoka, London."  
Telephone: 4270-4271 Park.

C.D.C.

**TO THE READER**

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

B3



# The fascination of friction drive—

*Have you ever experienced it?*

If you have never driven a car you will be astonished at the simplicity of the G.W.K., and the ease with which it can be driven; you can, in fact, learn to drive it with confidence in half an hour. If you *have* driven a car, you will probably be even more astonished and certainly more delighted at the ease and silence with which gear changing is made on the G.W.K., for gear changing consists simply of moving a lever either forward or backward; no "timing" is necessary, there is no "double clutching" to be done. And you get an infinite number of gear ratios, which make hill-climbing an easy matter; you have "a gear for every gradient." The G.W.K. friction drive is simplicity itself, and wear is reduced to an absolute minimum—two big advantages over the orthodox gear box. Owners of G.W.K.'s would tell you that they would require a good deal of inducement to return to the ordinary method of transmission. If you have never driven a G.W.K. there's a new and pleasant experience in store for you. Take advantage of it. It is worth noting that while the G.W.K. friction drive is proved by successes in the most important trials, there has not arisen one successful imitation. Write to-day and arrange for a trial run.

The British Built

## G·W·K

STANDARD MODEL, 2-cyl. engine, water-cooled, friction drive, variable speeds and reverse, hood, screen, five detachable wheels (four with tyres), lamps, and all tools, etc.

**185 GNS.**

**G.W.K. LIMITED,**  
**Cordwalles Works, Maidenhead.**

TELEGRAMS ... .. "CARS, MAIDENHEAD."  
 TELEPHONE ... .. 562 MAIDENHEAD.

## DOUBLE CLUTCHING MADE EASY. (See page 9.)



*Coldhartour, at the foot of Leith Hill, Surrey.*

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

Petrol 2s. 10d. per gallon!

And still people talk of pleasure motoring!

Prices had actually been put up by the dealers when notices were sent to the motor Press giving the old prices.

It looks as if the idea was to spring a surprise upon the public without the Press giving any warning of the advance.

Has anyone seen St. Martha's Chapel, that well-known Surrey landmark, lately? When last seen, it was on top of St. Martha's Hill.

Lighting-up time next Saturday (in London district) is 9.28 p.m., for Edinburgh 10.5 p.m., and Dublin 10.8 p.m. Makes one appreciate the advantages of the Summer Time Act, does it not?

As an indication of the very little motoring for pleasure now being done, we may mention that we have not had more than half-a-dozen inquiries for touring routes in the last four weeks.

One of our staff recently overtook a juvenile shepherd panting after a flock of sheep. He gave him a lift on the running board, when the driver made the surprising discovery that stampered sheep can do 20 m.p.h. on a 1 in 12 gradient.

During the first quarter of the year 2210 cars were registered by the L.C.C. From this, the "Daily Chronicle" seeks to argue that private motoring is increasing, which does not take into account that a far greater number of cars has been put out of commission or resold.

According to an American journal, Professor Enricht claims to be able to run his car on a fuel consisting of one gallon of water and one ounce of a mysterious green liquid. The American motor trade thinks, however, the further addition of a grain of salt would be desirable before swallowing this yarn.

-May has been characterized by its usual fickleness this year.

The price of tea at most motoring hotels is now advanced to 1s. 6d.

To-day sees the first number of Volume VIII of this journal, and the end of its first 3½ years.

Motor taxes—by the time this issue is on sale there should be a statement from the Chancellor of the Exchequer of the greatest importance to motorists.

Considering the prospect of using paraffin instead of petrol, it is interesting to note that the importation of lamp oils was only very slightly greater than that of petrol for the first four months of this year.

As there has been some doubt about the matter, we may say that, on the authority of the chief inspector of the Edinburgh police, lighting-up time in that city is half-an-hour after sunset, and not one hour.

"The man who owns his own car can, of course, easily overlook his petrol consumption," says "The Yorkshire Post." Yet somehow, in these days, we do not find it a matter that escapes our attention.

"The light car of the present era," says "The Outlook," "will readily climb any hill, not of the 'freak' variety, which is to be met with along any well-metalled road," which is very much under-estimating the powers of the modern light car.

Some of our readers are concerned because a certain legal paper says that the lighting-up times will not be altered by the Summer Time Act. They will not. Lighting-up time, as heretofore, is either half-an-hour, or one hour, after sunset. What the clock says is of no more importance than what the soldier said to the cook.

*NOTES, NEWS AND GOSSIP (contd.).***Where to Get Cheap Petrol!**

In certain parts of Cornwall, rumours of a great European war are beginning to circulate. Local motorists are much concerned lest the price of petrol which, in some places, is still retailed at the 1914 figure, should be affected. Fact!

**Eclipsed.**

The police recently challenged a Birmingham motorist for having "powerful" lights. They were small electric side lamps, with the lenses covered by tissue paper. At that moment a motorbus passed unchallenged, with two 5-in. headlamps that completely outshone the lights on the car.

**"Old Timers."**

Those who were amazed to see so many elderly cyclists foregathering on the Ripley road should purchase next Thursday's issue of "Cycling" for an explanation. Our venerable contemporary organized a great rally of old timers, and many famous motorists, who were cyclists once upon a time, figured in this remarkable event.

**Another Grievance.**

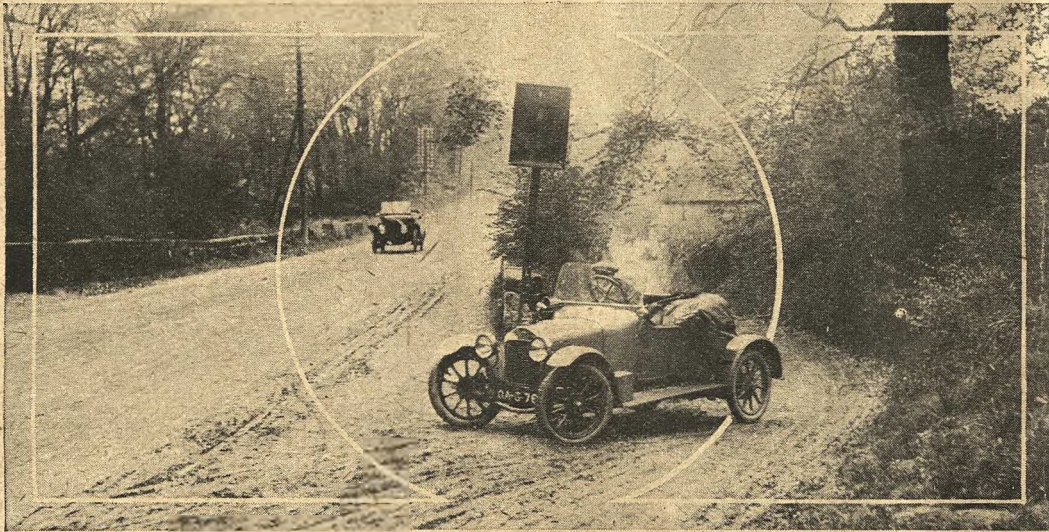
It is some time since we have been told that yarn of the motorist who gets his car home by emptying a bottle of whiskey into the dry petrol tank. The present diluted whiskey would be a poor substitute, we fancy.

**A Main Road Improvement.**

The main Portsmouth road, between Ripley and Guildford, which for nearly two years has been in a most appalling condition, is at last being thoroughly restored. It is being recovered half at a time, which shows that the new material is about 6 ins. in depth. The new tarmac surface, where completed, is perfect.

**The Flag Day Nuisance.**

When is the "Flag" Day nuisance going to be stopped? Motorists are finding local flag days a bit of a menace owing to the flag sellers running in front of cars to make the drivers pull up and buy their wares. There are always flag days somewhere in the country, while in London three a week seems the rule. We shall soon find as many people soliciting alms in the streets as there are in Constantinople, of which it is said there is a beggar to every square yard.



A Stellite light car turning from the old road on to the new road at the top of Meriden Hill on the Birmingham-Coventry road.

**An Alluring Road.**

It is curious that the traditions of the Ripley road, which always attracted anything new in bicycles, or all who were well-known riders, should still have the same allurements for the motorist. Go where you will, there is not another road in the country where so many new and interesting vehicles are seen, only the great rendezvous has changed from the "Angel" at Ditton, or the "Anchor" at Ripley, to the "Hut" at Wisley.

**Headlight Restrictions.**

There have been some additions to the areas in which headlights are prohibited and side lights must be dimmed with tissue paper. These are in the counties of Buckinghamshire, Cheshire, Derbyshire, Gloucestershire, Lancashire, Oxfordshire, Shropshire, Staffordshire, Worcestershire and Yorkshire. There are now so very few districts in which headlights are allowed that we strongly advise readers to dispense with them altogether. The A.A. issue a booklet giving full details of the lighting restrictions.

**The Front Cover.**

Our front cover this week depicts the 10 h.p. Swift, which "John Gilpin, Jnr.," describes in this issue. For photographic purposes it was driven backwards and forwards, at varying speeds, through the fairly deep ford, near Kenilworth, depicted in the photo., needless to say without any disadvantage to a car which is particularly suited to Colonial conditions.

**A Motor Gymkhana.**

The Yorkshire A.C. is arranging a motor gymkhana for the entertainment of the wounded soldiers at the various military hospitals in the Leeds area on Saturday, 3rd June. It is hoped to entertain upwards of 2000 wounded men. Subscriptions, the loan of cars for the transport of wounded, and the assistance of ladies for attendance at the tea-tables are requested. The gymkhana will include a glass-of-water race, nurse and sisters race, and an Adam and Eve race. All offers of assistance, etc., should be addressed to the secretary, Mr. R. Hilditch, Yorkshire Automobile Club, Atlas Chambers, King Street, Leeds.



A familiar object, on Reigate Heath. The windmill was once a chapel on the Pilgrims Way, and on September 14th, 1880, again, became a place of worship. The car is a 10 h.p. Swift.

### The "Don't" Committee and the Taxes.

By the time this issue is on sale it is quite likely that an important statement will be made in the House of Commons with reference to the taxes. The latest information at the time of going to press will be found on our "Topics of the Day" page.

Meanwhile, evidence that has been collected by the Royal Automobile Club, which forms a bulky tome of 47 printed pages, foolscap size, has been placed before the Government as a protest against the form of the appeal of the National Organizing Committee for War Savings respecting the use of private motorcars. The figures given are compiled from reports of clubs associated with the R.A.C. and the A.-C.U., such as the Cyclecar Club, the secretary of which shows how its members are using their cars in connection with munition work, voluntary nursing, ambulance, police work and other business purposes, from reports by county surveyors, the British Red Cross Society, and owners of motor garages and other members of the trade. It shows the vast amount of voluntary work that has been done by motorists at their own expense, saving hundreds of thousands of pounds to the country and a very important part that the motorcar plays in the business and industry of the nation. This is one of the best things that the Royal Automobile Club has ever done.

### The Mysterious Rise in the Price of Petrol.

Prior to going to press with our last issue we received the usual announcements from the petrol companies that there was no increase in the price of motor spirit, yet on Saturday a number of garages had received an intimation that the price was to be raised and we were charged 2s. 8d. for Shell II. On the Monday morning a letter was received from the controllers of Shell spirit giving the old prices. On Monday afternoon another circular was received giving an increase from 2s. 2d. to 2s. 10d.

Later we received a kind of an apologia from the Asiatic Petroleum Co., Ltd., who blame the motorist for failing to economize in the use of motor spirit for the further rise in price. It is now stated that "the new price will enable us to secure supplies from new sources." It is a remarkable circumstance that supplies of Shell have been much easier to obtain during the last week or so before the rise in price. If the price of petrol had been advanced by a Government tax motorists would bear the impost, no doubt, with a certain amount of grumbling; but that the new tax on petrol is simply going into the pockets of the petrol companies is exasperating.

Is it not possible for the Government to control matters? Again we ask "What are our motoring associations doing?"

### Less Private Cars.

Mr. Cathcart Wason, the member for the Orkney and Shetland Islands, has been getting busy again. After a statement from Mr. Runciman about the shortage of petrol in the Commons last Monday, he ventured the opinion that it was due to the abundant use of private cars. Mr. Runciman replied that the number of private cars in use was lower now than it was, and he should certainly know. We hope the constituents of Mr. Wason's division are impressed.

### Burford Bridge.

The Burford Bridge Hotel has just been entirely redecorated white and green, which appears to be the standard colours of the S.P.H.T., and very smart it looks. What a wonderful place it is, with its gorgeous gardens, which so few visitors stop to admire, and, more marvellous still in war time, the best lunch or tea at moderate prices anywhere near London. Where else can you get a tea in which toast, lettuces and really first-class cake figure, for 1s. in these days? No wonder the place is crowded.

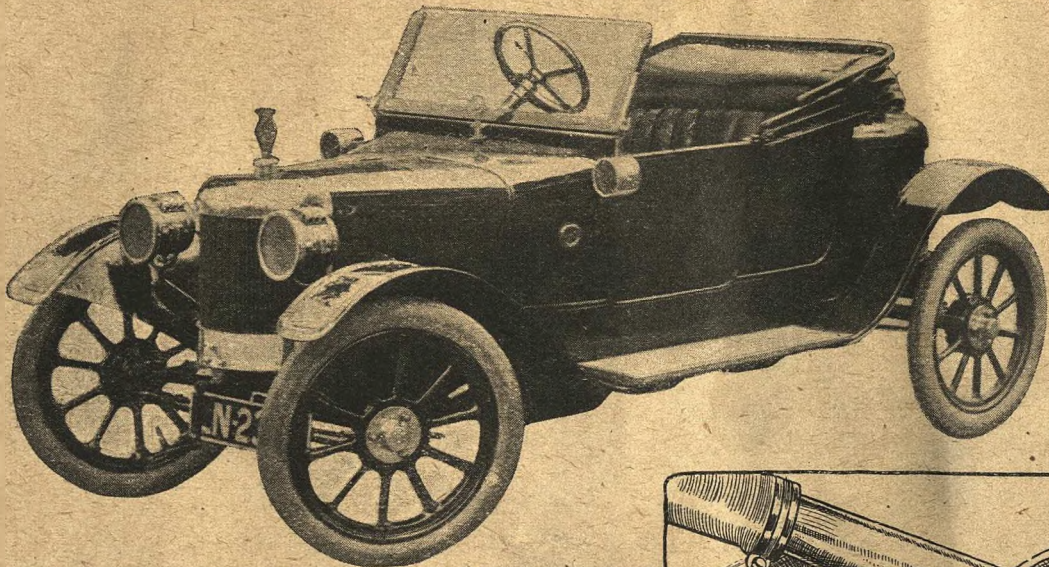
### More Reliable than the Train.

The G.W.K. illustrated on this page belongs to a captain in the Army, who owns a Rolls-Royce, and who wanted something light for running about the camp at Dunbar in Scotland. He purchased it after a 10-minutes trial, and wanted it sent down by train, but the railway company could not guarantee delivery. Thereupon it was arranged by the agent to send it by road as quickly as possible. The driver started Saturday morning, and, in spite of rain all day, averaged 26½ m.p.h. to Newcastle, which was reached that night. Here he wired to the officer that the car would be delivered at 3 p.m. next day, and the rest of the journey was completed to time almost to a minute, despite the rain, at an average speed of 24½ m.p.h. If the car had been sent by train the cost would have been much greater, and at least four days would have been required.



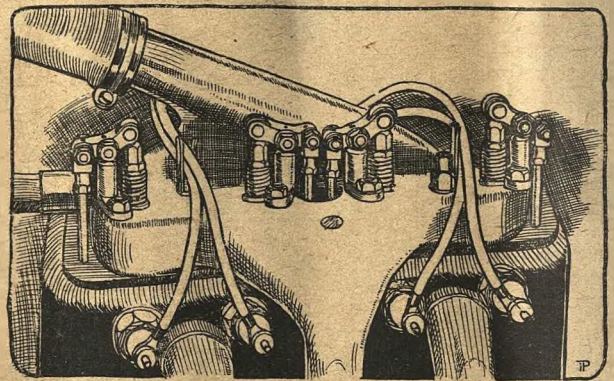
The Brig of Cally, near Dunbar. A G.W.K. en route to an officer in Scotland. It was delivered by road in quicker time than it could be sent by rail.

## THE OATES-LAGONDA LIGHT CAR.



**T**HE latest model of the Oates-Lagonda has some very interesting points. Mr. W. H. Oates, who is well known in trade circles in connection with the Lagonda light car, has carried out some notable improvements in the Lagonda design in a car built at the Hammersmith works of Messrs. Tollemache and Griffin, Ltd. Its outward appearance is very striking. The body is somewhat lower than the standard Lagonda, slightly narrower, and constructed of aluminium, while the sides are panelled. The wheel-base being lengthened by 4 ins., the car has a very sporting appearance. Instead of the cabriolet top, there is a black Pantosote hood, the body being painted dark blue, lined with black, with all fittings in brass. The brass hub caps give a smart appearance to the wheels.

The engine has a very high compression, the compression space being only  $\frac{1}{4}$  in., the connecting rods having been lengthened, while light pistons are fitted. The overhead valve gear of the Lagonda engine has been improved. The disadvantage of the overhead valve system is that the rockers exert a side thrust on the valves, which wear oval in their guides. This appears to be quite overcome in the Oates-Lagonda, for rollers are fitted on the striking ends of the rockers, and their rolling action over the valves ap-

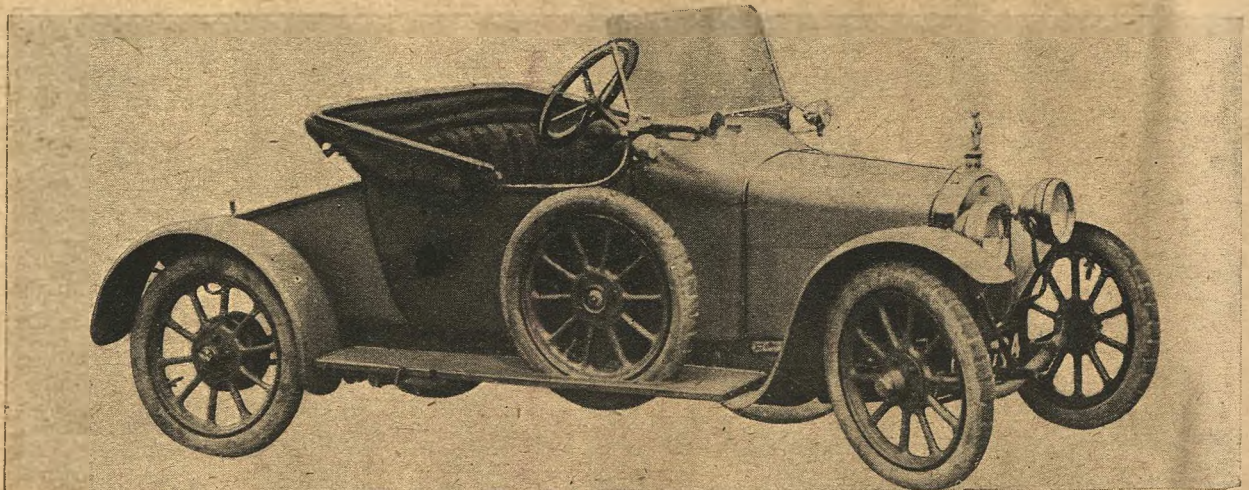


The overhead valves with rollers on the striking ends of the rockers.

parently eliminates side thrust. The idea is experimental, but we see no reason why it should not prove entirely successful, the test of which, of course, will be after a considerable mileage. Needless to say, with an engine of about 1100 c.c., the car has a wonderful turn of speed, and an enviable exhaust note.

Another detail improvement is in the main gearbox bearings, which have turbine cuts in them to prevent oil working out.

The car is not being made for supply to the public.



The 1916 Stellite light car, which will be described in our next issue. Note the streamline scuttle dash.

## USED CARS AT REASONABLE PRICES.

**A**LTHOUGH the dealers are not carrying such large stocks as formerly, there is still no difficulty in obtaining a second-hand light car at a reasonable price and in good condition. Generally speaking, however, the best bargains are very quickly snapped up, and some of the cars mentioned below may be sold by the time the reader arrives at the depot. In the case of the second-hand trade, it is the early bird who catches the best worm.

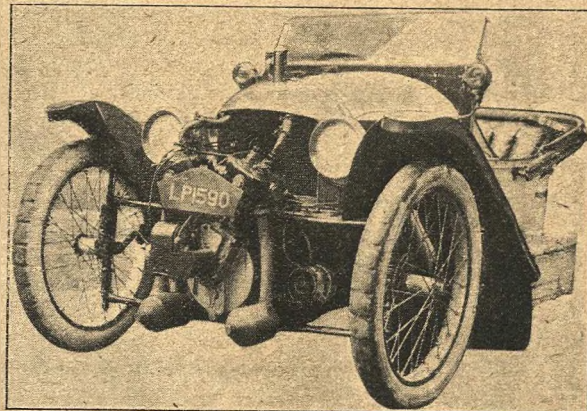
The Colmore Depot, in Birmingham, have a more than usually varied stock, and we were most interested in the following:—A very smart Calcott, painted dull red, with a complete set of accessories, including electric side and rear lamps, acetylene headlamps and generator, priced at £210. A 1915 Horstmann, with seat starter, in almost new condition, for £150. A 1915 Singer, apparently having had very little use, with Rotax dynamo lighting set, clock, spare wheel, etc., at £220. (New Singers are now fetching £275 to £300.) A four-seater Calthorpe at £190. A water-cooled Morgan, driven by Miss Hough in the Birmingham M.C.C. trial, at £105. Two other Morgans at £85, and a Humberette at £60. An overhauled A.-C., with C.A.V. dynamo lighting set, dickey seat, and a dashboard bristling with extras, at £165. A novelty is a Morris-Oxford chassis, with the customer's own choice of body, the estimate for the complete cost being £175. Other cars were also seen in the process of complete overhauls which will be ready for the buyer in the course of the next week.

At Messrs. P. J. Evans, also in Birmingham, the most striking bargain, in our opinion, was a Baby Peugeot of a special sporting type, lately owned by Mr. Jack Woodhouse, the well-known driver, painted dark brown and in splendid condition; the price was £135. A Morgan was in the course of being thoroughly overhauled last week, and was to be offered for sale at £62 with a semi de luxe body; while we also saw an A.-C. Sociable in very good condition offered at the low price of £35. A 1914 Enfield Autolette at £65, which has just been overhauled and is in thoroughly good running condition, is a low-priced bargain.

Messrs. R. E. Jones, of Great Portland Street, have a constantly varying stock of second-hand light cars. Last week's stock included a 1915 Singer,

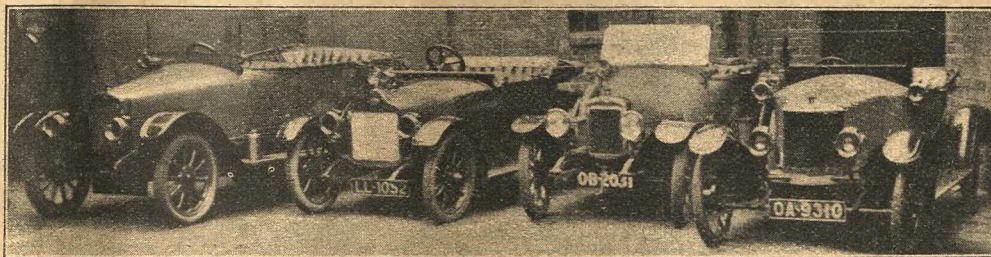
painted grey, with a Rotax dynamo lighting set in very good condition, at £220. A somewhat refined 1915 model Baby Peugeot was also offered for sale, having running boards with domed mudguards, with oil side and tail lamps and acetylene headlamps, at £180. A Standard was also noticed, with full equipment, and a Rhyl two-seater body painted dark blue, priced at £185.

Maudes' Motor Mart, also of Great Portland Street, had a special water-cooled Morgan, painted



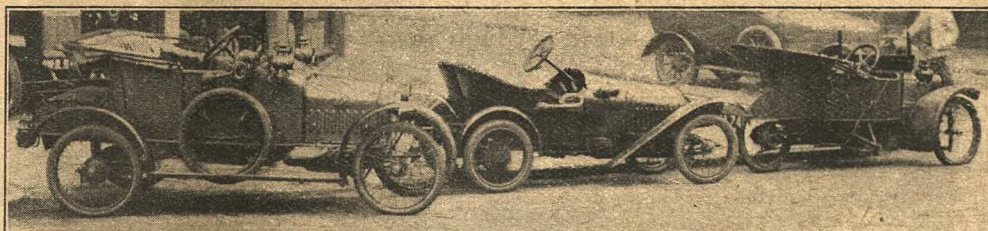
A Morgan at Maudes' Motor Mart fitted with dynamo lighting set. The dynamo is carried on the axle.

white. The special feature was the fitment of a Lucas dynamo lighting set with five lamps, and a Lucas switchboard and indicator on the dash, the price being £130. The manner in which the dynamo was fitted is interesting. It is carried on the front axle, driven off a pulley between the crankcase and the clutch flywheel. A place for the accumulators was found behind the running board on the near side. Another Morgan, also water-cooled, at £125, and a 1914 10 h.p. Singer two-seater at £175 were noticed. Two Carden monocars, one painted white and the other red, were also for sale.



Some second-hand light cars at the Colmore Depot. From left to right: A 4-seater Calthorpe, a Calcott, a Calthorpe 2-seater, and a Horstmann.

Second-hand light cars at P. J. Evans. From left to right: An Enfield Autolette, a Baby Peugeot, and a Morgan.



## Topics of the Day

# The Light Car and Cyclecar

**Largest Circulation.**  
**Mondays—1d.**

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

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### LIGHTING-UP TIMES.

London ...	9.28	Edinburgh...	10.5
Newcastle...	9.53	Liverpool ...	9.50
Birmingham	9.40	Bristol...	9.38
Dublin ...	10.8		

All times are now advanced one hour and give the correct time to light up under the provisions of the Summer Time Act.

For Dublin the local mean time (one hour after sunset) is given. If Greenwich time is required 25 minutes must be added.

MOON.—No moon.

### Petrol and the Taxes.

UP to the moment of going to press with this issue there is no information available as to the fate of the new motor taxes. It seems not unreasonable to expect, however, in view of the strong opposition brought against them, that they will be at least modified, and perhaps dropped altogether. In this event it is not unlikely that the tax will be replaced with an additional tax of 2d. on petrol. If so, this will be a further burden, especially in view of the fact that last Monday the petrol companies raised the price of motor spirit to the staggering figure of 2s. 10d. per gallon. One of the most important factors, and which is obviously likely to have the greatest effect upon the Chancellor of the Exchequer, is the overwhelming evidence with regard to the use of motorcars which the R.A.C. has collated, chiefly for the purpose of a protest against the form of the appeal of the War Savings Committee respecting the use of private cars. The evidence is so voluminous and so unanimous and is taken from such excellent sources that it is bound to carry considerable weight. We attach great importance to the opinion of 530 garages, who replied that no men whatever are being retained for work for private motorists who might be employed usefully on war work, and that, therefore, no men would be set free if pleasure motoring were entirely abolished. The evidence also bears directly on the effect of the taxes, which have been almost universally condemned. In view of the circumstances, we should not be surprised if in the Committee stage of the Bill, which is expected to come on next week, certain modifications are introduced.

### The Real Hard Cases Under the Taxation Scheme.

THERE is a very general view that the only real sufferer under the new taxation scheme, in which the motorcar licence duties have been doubled and trebled, is the owner of a Ford car. The real hard cases, however, are those of every type of motorcar user to whom a car is an essential part of his business, whether he uses a Ford car, a light car, or any other motor vehicle. It does not matter in the least, in these times, if the private owner of a Ford car, which he has purchased for somewhere about £50 second-hand, is called upon to pay a tax of £18 18s. if he uses it solely for pleasure motoring; but if he uses it for business purposes the case is different, and the sufferers under the double and treble taxation are certainly entitled to some relief. The matter has been raised in the House of Commons in the case of the commercial traveller. The reply given by the Chancellor of the Exchequer, of the usual stereotyped form, states that exemption in favour of trade vehicles only covers one which is "constructed or adapted for use and is used solely for the conveyance of goods or burden in the course of trade or husbandry and is duly inscribed with the owner's name and address." It has been held that where a commercial traveller's brougham is used, even when the name of the owner has been painted on it, and a considerable quantity of samples carried, that it is not entitled to exemption. It is, in fact, in quite a different category to, shall we say, the G.W.K. and Calcott parcelcars, which are so extensively used by "The Evening News," "The Star," and other business houses, and which count as commercial vehicles. If the traveller used a vehicle of this description, emblazoned with the name of his concern—in fact, an ordinary trade van—no doubt exemption from the taxes would be provided. As a matter of fact, however, the commercial traveller, while he certainly should not be called upon to pay the tax for the car he uses for his business, is certainly not in so difficult a position as, for instance, the country clergyman. The commercial traveller gets his expenses paid by his firm, but the country clergyman, whose district is often very widely scattered, has to find his expenses out of his own pocket.



## THE CONVENTION of the CHAUFFEUR.

**T**HE private-service professional driver is ultimately the modernized and technical development of the coachman and stable boy. In the days when the horse-vehicle was still paramount, there was usually the elderly coachman, with a boy or another man to assist in the yard.

His duty was, first of all, to be knowledgable in feeding, cleaning, and in attending to the health of the animals under his charge, to wash and polish the coachwork of his carriage, to keep harness sound and supple, and occasionally to lubricate or, as he would call it, to "stick in a bit o' grease" in the hub caps when necessary.

He did not worry much how his carriage was built or why some were easier to draw than others, nor had he experience of long-distance travel or high-speed traffic. True, he



The elderly coachman.

could steer a pair of spirited horses perhaps and their landau through traffic with ease and certainty, a performance in which few present-day mechanical drivers would feel at all happy, since sitting behind even a long bonnet is very different to having the whole length of a horse in front of one, not to mention the highly indirect steering by means of flexible reins!

The coachman was a genial fellow with a fund of humour and a knowledge of nature both human and animal. The lately-extinct London busmen had ample leisure to survey and study life, so that most of them developed considerable shrewdness of wit and a picturesque gift for repartee, and, in the opinion of many people, would compare very favourably with the motorbus men of to-day. The taxi-driver leads in this respect.

Yet it is hardly fair to make a comparison, and as at least one writer, Rudyard Kipling, has tried to tell the world, there is just as much romance in our modern age of machinery as in the glamour of the past, if only we will open our eyes to see and understand.

The horse driver possessed, as all road users must, an excellent judgment of eye, and often had a really personal influence in the control and guiding of his horses, but, after all, a well-trained horse is not liable to run off the road if one's attention is diverted for a moment. The average speed of the horse bus was little more than half that of a motor one, and the higher the speed the more concentrated attention is required, while in reins, brake, and whip the driver had again less than half of what the motorman has to deal with. Small wonder then that the motor driver sometimes appears silent and uninteresting, since his calling is a very much more exacting one.

With the advent of the early motorcar, the private chauffeur, or, more correctly speaking, the mechanic, was very much of a necessity. Unless the enterprising owner of those times was himself an engineer and was

endowed as well with no small degree of patience and good temper, he made a point of obtaining some kind of car mechanic for whom there was employment in plenty! In those days a car had to be, literally, got in order for each run, often tinkered up when on the road, and generally looked over with distrust after the return journey home.

Small and simple though the early car was, yet everything, from chassis to tyres, was more or less experimental and untested, garages and motor mechanics were remote, so that the home workshop had to be of necessity both complete and resourceful. Gradually the car became more used and more reliable, and the less bigoted type of coachman began to think of future possibilities as a driver, while the chauffeur class began to appear partly from the manufacturer's workshop and partly from the garages.

At first so much attention had to be given to the mechanism that there was little time for anything else, but now greater perfection of finish and detail was called for, and the black-leather-coated mechanic tended to become more the liveried driver. To-day much of the motor bodywork is superior in finish and luxury, though not in permanence, to the carriages of the past, and a large share of the chauffeur's time is occupied in washing, leathering, and polishing.

To some extent this is unavoidable, since any car will become more road-stained than a carriage, and there is the almost inevitable exuding of oil and grease. But unquestionably we have now a growing demand for bodies of plain, durable finish, and many busy light car owners who are willing to attend to all the needs of the mechanism, yet resent the amount of time and care required for the preserving of an unnecessarily showy finish. Brass, for example, as a metal of certain definite qualities, has its uses on a car, but as a finish it is mostly a tradition from the horse-drawn vehicle. Surely in the coming age of enforced but also sensible economies the spending of time and energy in polishing the brasswork of a large car will be condemned as a mere waste of highly-paid labour?

With a carriage, when the horse's bit was being given the necessary cleaning, it was the natural thing to polish up the various brass fittings, and brass was

a good material for harness buckles when other non-rusting metals were still unknown. But on a motorcar there is plenty to attend to without it, and its appearance is largely a matter of convention. Brass can be chemically turned black, it can be enamelled over even on radiators and lamps, it can be replaced by aluminium, which requires very little attention and looks nice.

Nickel-plated finish is even worse than brass for the light car owner, since if it is once allowed to tarnish seriously it can



The liveried driver.



The lately-extinct London busman.



The lady novice.

## CONVENTION OF THE CHAUFFEUR (contd.).

never be properly restored. Unfortunately, the novice, and particularly the lady novice, usually delight in the gleaming brasswork of a showroom car, and their preference helps to keep up the tradition. After six months use, they may still delight in it—if there is someone else to do the cleaning! Otherwise, they will probably begin to question: "Is it worth while?" Or they will give an occasional clean only when the tarnishing has become bad.

War conditions are certainly having an important effect on the chauffeur's occupation, both present and future. In one way the more intelligent owner is finding out that he can do a good deal without the necessity of a resident chauffeur. Others, more ignorant of what a car's upkeep means, are only learning by the loss of a chauffeur the amount of work he really did. To help in the problem came the light car, at just about the time that it has reached thorough reliability many people who once talked contemptuously of "jampot engines" and "runabouts" are now more than interested, and had large deliveries been possible, its influence would have been almost revolutionary. Apart from the war, the light car was already beginning to come to its own, because it was filling a real need among a large class of prospective

motorists, but a still greater impetus will now be given to it by the selling of large cars, the reduction of motoring expenses and chauffeur's wages.

On the other hand, there must be a great influx eventually of men set free from motor transport work who will have a fair knowledge of practical driving, even if not grounded in the theory or details of things. From these men and the already enlisted chauffeurs, the private driver class will be more than filled, and the surplus will gravitate to commercial car and bus work, where great developments may also be expected.

The fewer the private chauffeurs, the more the garage and repair shop will benefit, and one result of light car developments will be that a great deal of work which the owner-driver, either from lack of time or mechanical skill, finds to be beyond him, will be brought in for professional help.

In districts where, up to the present, the large car has been chiefly used, the local garage has sometimes inclined to treat light car work more or less casually as an unremunerative side line. The sooner this attitude passes, the better for all considered, since there are indications that within the next few years it is quite possible that the private-owned large car will be outnumbered by the light car in its two, three, or four-seater varieties.

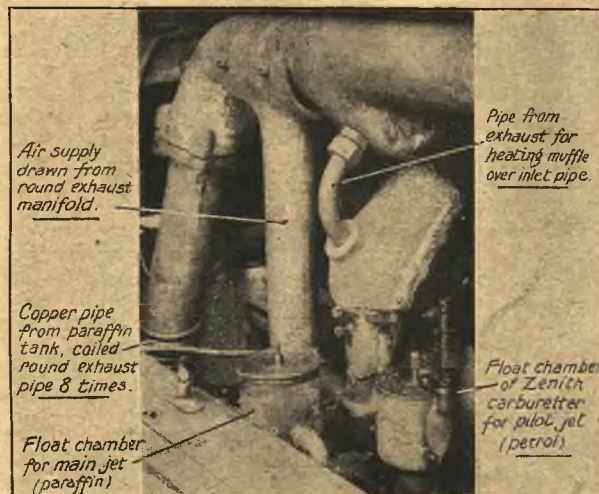
S.F.B.L.

## PARAFFIN

## The King Patented Attachment.

OWING to the fact that it is extremely difficult to raise the price of paraffin because it is so widely used in the country for lighting purposes, especially in districts where there is neither gas nor electric light, its adoption as a substitute for, or dilutant with, petrol is of the greatest importance. Paraffin, when mixed with petrol, is perfectly satisfactory as a fuel, providing there is adequate heating of the mixing chamber and inlet pipe, but, under certain favourable conditions, it can be used alone. In last Thursday's issue of "The Commercial Motor" there was a description of the King attachment, designed to use paraffin in lieu of petrol, which is sold by Messrs. Lawrence King and Co., 122, Alma Street, Liverpool. We illustrate the device on this page, as fitted to a commercial lorry, and it is applicable to any carburetter having both a main jet and a pilot jet such as the Zenith or the Solex. As illustrated, it is fitted to a Zenith carburetter under licence, the usual float chamber of which is used solely for supplying the pilot jet with petrol. A second float chamber is used which is fed with paraffin and supplies the main jet. When starting up, petrol only is admitted to the engine by way of the pilot jet, which is allowed to run for some four or five minutes until it is thoroughly warm. On the throttle being opened, the petrol (pilot) jet is cut out, and the paraffin (main) jet then comes into action. The supply pipe from the paraffin tank on the experimental engine was coiled eight times round the exhaust pipe before reaching the float

B12



The arrangement adopted for the King paraffin attachment.

## AS FUEL.

## Petrol Only Used for Starting.

chamber. Twelve coils were previously tried, but it was found that the paraffin began to vaporize before it reached the engine. The main air supply is drawn from a muffle on the exhaust manifold, while the induction pipe was also heated in the manner shown in the illustration.

The main idea of the King paraffin attachment, however, is a heating apparatus for raising the temperature of the paraffin fuel, in which the expedients illustrated are partly

obviated. It consists of a short portion of exhaust pipe fitted with a by-pass, round which is cast an annular chamber, with inlet and outlet unions, which are coupled to the paraffin supply tank and float chamber respectively. In the exhaust pipe proper, situated just past the engine end of the by-pass, is a butterfly valve, which is operated by a thermostat so that the heat is automatically regulated. The exhaust from the engine, instead of passing direct to the silencer, is blocked by the butterfly valve, and proceeds by way of the by-pass, heating the annular chamber on its way. As soon as the temperature rises, however, the thermostat operates the butterfly valve and allows the exhaust gases to pass direct to the silencer, thus avoiding the by-pass. By this means the temperature of the paraffin is maintained almost constant under varying conditions.

Although this has been designed more for commercial lorry work, we see no reason why it should not be applied to any light car. All inquiries should be sent to the address given above.

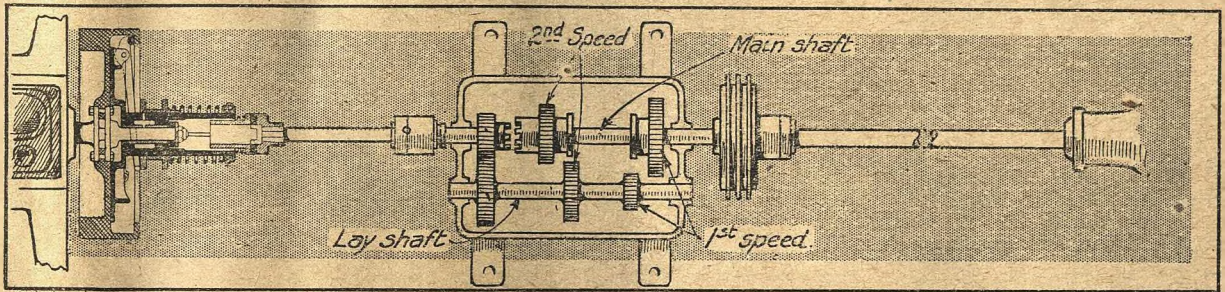
## DOUBLE CLUTCHING.

Why it is Necessary on so Many Light Cars.

*An article of the greatest interest to all who have a conventional light car gearbox, with sliding gears.*

ON many light cars, whether their owners know it or not—and to many, apparently, it will be news—it is always necessary to “double clutch” when changing down from top to second or second to first. Firstly, let us explain what double clutching is. The following is the correct procedure to be followed. First withdraw the clutch; then move the gear lever into the neutral position; next let the clutch in again, and at the same time depress the accelerator pedal in order to speed up the engine; then withdraw the clutch again, and finally place the gear lever gently in the lower gear. The

at a high speed, with the result that the edges of the teeth on meeting simply grind away one against the other. It is, therefore, necessary to have in mind that in top gear the layshaft is revolving at a relatively slow speed. When we take out the clutch to change gear the speed becomes still slower, but when we disconnect the two halves of the main propeller shaft by moving the gear lever into neutral position, the back end of the propeller shaft continues at the same speed, owing to the fact that it is driven by the back wheels, and if we have been running on top gear this is relatively a high speed. Thus it is seen



A typical three-speed sliding gear type of gearbox, as will be found on many light cars.

process does not take so long as it sounds with an engine that accelerates quickly, and in the hands of an expert driver the double-clutch change may be made in under two seconds.

By double clutching, a quiet and easy change may be made, and, in fact, is absolutely necessary on a great many light cars, which will explain the difficulty in changing down to second sometimes experienced.

### Why Double Clutching is Necessary.

Problems such as these are always better understood if the driver thoroughly appreciates the necessity. There are two factors in gear changing, viz., the car speed and the engine speed, and in a gearbox these two speeds are represented respectively by the end of the propeller shaft that drives the back axle, and the forward end, which is driven by the engine. The propeller shaft is thus divided, and we obtain our variations in speed by means of gearwheels carried on the propeller shaft and a secondary or layshaft. If the difference in gear ratios is great, gear changing will be more difficult in any type of gearbox that provides the different ratios by means of sliding pinions. In this type there is a pinion at the front end of the layshaft, which is in permanent engagement with a smaller pinion on the main shaft. The layshaft on top gear, or with the gear lever in the neutral position, simply runs idly. When, however, we change down to second speed we move a sliding pinion on the rear end of the propeller shaft into mesh with another pinion on the layshaft. The drive from the engine to the back wheels is thus taken first by the pinion on the main shaft to the pinion on the front end of the layshaft, and thence by the second pinion on the layshaft to the sliding pinion on the back end of the main shaft. Now follow what happens when we simply slam the gear lever in and expect the pinions to mesh, with the result that a terrible noise arises from the gearbox. What we are trying to do is to throw two pinions into mesh when one is almost stationary, while the other is revolving

that the second gear pinion on the layshaft and the sliding pinion on the main shaft, which we want to engage with it, are rotating at very different speeds, and the longer we keep the clutch out the greater will be the difference, as the layshaft, being disconnected from the engine by means of the clutch, will continue to slow up until it comes to a standstill.

A very simple means is provided for remedying this. While the gear lever is in neutral position we let in the clutch, touch the accelerator pedal, and the layshaft is immediately speeded up. The speed required is a matter of judgment, which is very soon learned by experience. As soon as the right speed is reached, when the two pinions are rotating at practically the same periphery speed, they are put into mesh, and this will then be a perfectly easy matter.

### Changing Down on Hills.

With some cars, when changing down on hills, double clutching is not necessary, but it is usually desirable to make the change at a certain speed. Thus, on one well-known car, the accelerator pedal is kept well down, and as soon as the speedometer indicates 15 m.p.h. the gear lever is pushed into second, it being hardly necessary to declutch.

To change from second to first, the same action as from top to second must be followed. On some cars, to a certain extent, a silent change can be obtained by slipping the clutch, which means that the layshaft is still being driven, and drawing the gear lever slowly through neutral until it can be quietly slipped into first, a tip which is useful in traffic.

A method of obtaining a silent gear change, which was given in the 17th edition of the “Motor Manual,” may be of some interest. It was recommended by a car owner who has made many experiments in gear changing and found it the best, but that it would apply to every light car does not always follow, as there are such wide variations in gear ratios. His method for changing down is to bring the throttle lever to about quarter open position, a point which

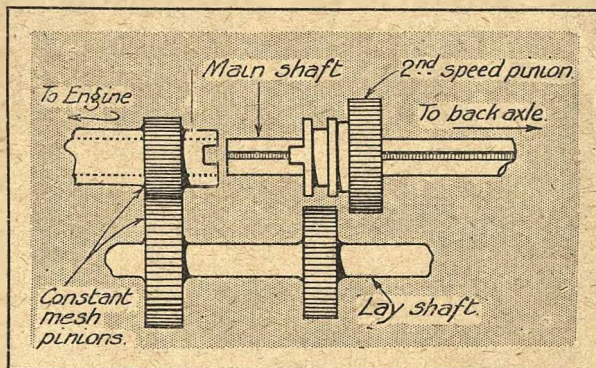
*DOUBLE CLUTCHING (contd.).*

it will probably take the owner some time to discover if he has merely foot control, and at the same time instantly declutch and move the gear lever for half its travel. Next, quickly let in the clutch, and slip it out again (this should be a sharp up and down action of the leg) to speed up the layshaft. Finally, the lever is moved smartly into the required slot.

**Changing Up.**

In all types of gearboxes that require double clutching in order to make a quiet change down, a certain amount of care will be necessary in changing up. In nearly every case it will be found that a quiet change can be made by pausing for a full second with the gear lever in the neutral position, the foot off the accelerator pedal, and the clutch out before pushing it into the notch for the next higher gear. If the reason for double clutching is understood, it will be quite easy to appreciate why this precaution also is necessary. On a low gear the layshaft will be travelling fairly fast, owing to the high speed of the engine, while owing to the low speed of the back wheels the back end of the main propeller shaft will be travelling relatively slower. When we make a change of gear, as from second to top, we are going suddenly to connect the front end of the propeller shaft, which is moving at a high speed, with the back end, which is moving comparatively slowly; therefore in order to slow it down we must take the clutch out and pause for a second until the speed of the layshaft has fallen off a little in order to make a quiet change.

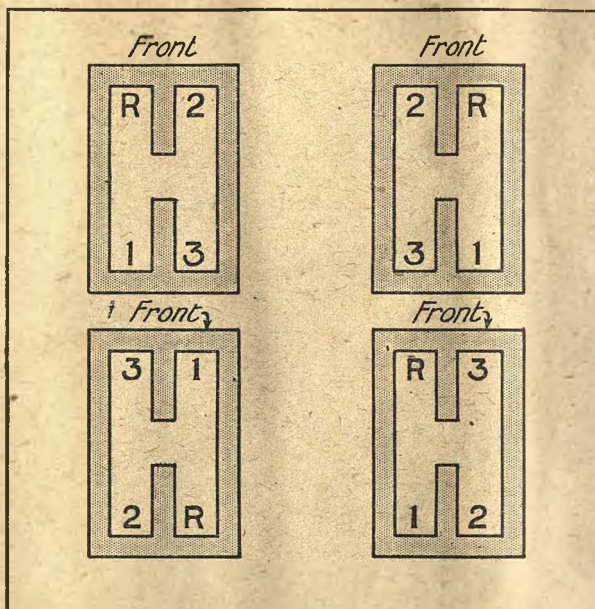
The same precaution is necessary when changing from first to second, except that, in this case, instead of coupling the two ends of the mainshaft directly, we have got to engage two gearwheels, the peripheries of which will not be travelling at the same speed unless we pause for a second until the faster one slows down. We must also bear in mind that we are engaging two pinions of different size, and, even if the



A diagram illustrating why it is necessary to speed up the layshaft when engaging the gear pinions. The speed of the periphery of the gearwheel on the main shaft is nearly double that on the layshaft at the moment of changing from top to second.

two shafts are rotating at the same speed, the speed of the larger pinion at its periphery (that is, at its extreme circumference) will be much greater than the speed of the periphery of the smaller pinion, but as the larger pinion is carried on the main or slower-running shaft, this compensates to some extent for the greater speed of the layshaft pinion. The slight pause in neutral allows the layshaft to slow down to the correct speed, and very little practice is required to gauge this so that a silent change is made every time. It is much less difficult to calculate than the silent change when changing down, for the reasons

already given, and the man who produces an unholy disturbance in his gearbox when changing up is doing so because he is a bad driver who is endeavouring to slam in from gear to gear too quickly. Another type of bad gear changing is to keep the accelerator pedal down when changing up, instead of releasing it (some



Four different arrangements of the "gate" most in use, the most popular being the first two. The speeds are indicated 1, 2, etc.; reverse by R, while neutral position is always between each pair.

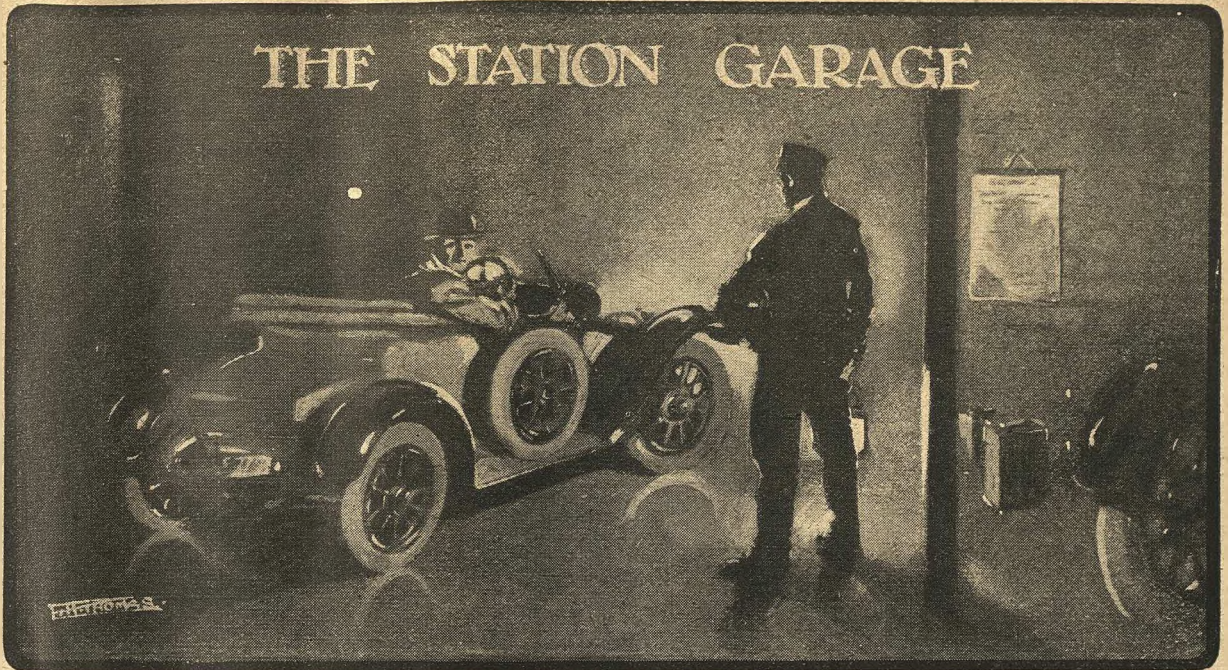
drivers use a magneto cut-out on the steering wheel instead) until the higher gear is engaged.

**The "Gate" Helps.**

With some cars the arrangement of the slots in the "gate" makes quiet changing almost automatic, owing to the fact that the gear lever has to be moved a considerable distance. Typical gates are illustrated in which it will be seen there are four slots, the neutral position being midway between each pair. The arrangement of the gate differs a great deal. On one set of cars it will be found that when the gear lever is right back on the outside of the gate, top gear is engaged; second speed, the gear lever is still kept on the outside and merely pushed forward with a pause in neutral when double clutching is resorted to. To get from second to first the lever has to be brought midway back, then slid sideways to the inside pair of slots, and then brought back (in some cases forward). This somewhat complicated arrangement takes time and gives the driver an opportunity of speeding up the layshaft, while, when changing up, the delay is just enough to allow the layshaft to slow down.

On some types of cars, notably the Singer, there is no difficulty in changing up or down, because the gear pinions are in constant mesh and each set is engaged respectively by means of dog clutches. The result is that the gears can be slammed through from one to the other indiscriminately, but it should always be borne in mind that sudden changes put a very severe stress on the transmission and upon the car as a whole, and the good driver will neither violently brake the back wheels by suddenly changing down, nor stress his engine by too early, or too rapid, a change up.

The foregoing hints if carefully followed will make it very much easier to drive, and after all, as turning the front wheels by means of the steering wheel, or applying a brake, requires no great amount of skill, gear changing is the one difficult and essential part of driving which most requires studying.



ONE of the greatest potential advantages of the motorcar lies in the enlarged opportunities for living in the country which it offers to those whose daily work has to be performed in the big agglomerations of bricks and mortar. Recent railway extensions have opened up for residence by townspeople many tracts of pleasant country previously inaccessible, but the advantage of railway facilities is, for those without independent means of progression, practically confined to a radius of about a mile and a half from a station, which is the limit of distance the average business man who has to make the journey year in, year out, in all weathers, cares to tramp for his train or home again.

In theory, the motorcar ought to render eligible for this class a very much wider circle of territory around every country station within 30 miles of a large centre of population, but so far it has practically only done so for those car owners well enough off to keep a chauffeur or chauffeur-gardener, who, of course, form but a quite small proportion of the persons who are able, in this era of comparatively inexpensive motoring, to possess a vehicle of their own.

Living near a station undoubtedly has its conveniences, but, equally beyond doubt, there are compensations in living at a distance which weigh well against the drawbacks of being out of near touch with trains, and possibly, too, with shops.

In the new colonies which have sprung up within late years round about outer suburban railway stations, the would-be dweller in the country has to submit to a distinctly suburban atmosphere, and though the builder, with vague notions about possibilities of a more artistic treatment than the old suburbs showed, may carve his plots up into odd shapes and sizes, and erect houses teeming with corners and gables, the occupant can never get away from his neighbours' windows, and finds the effort needed to imagine himself in the country too great to be sustained. Hence, to really live in the country and yet be able to go up to town every day means that two to four miles of road will lie between one's house and the station.

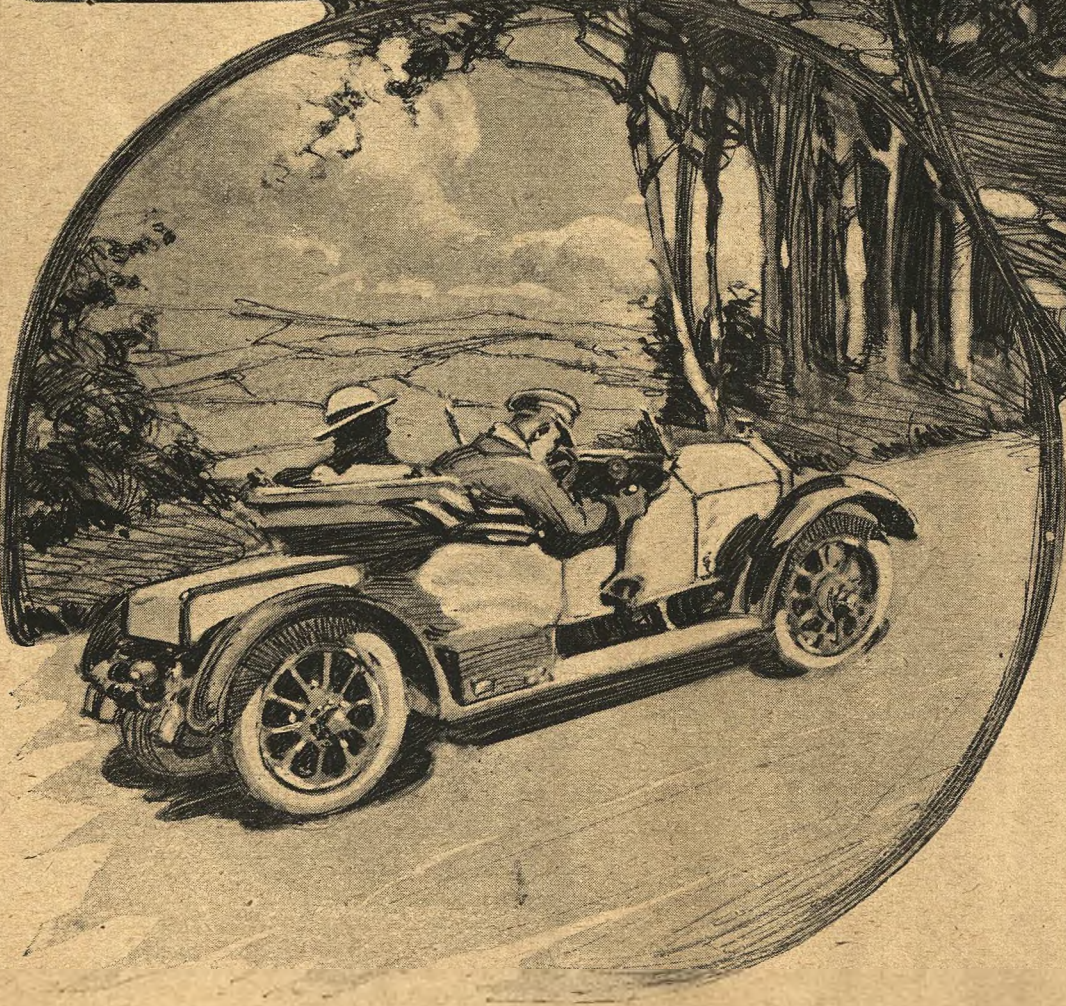
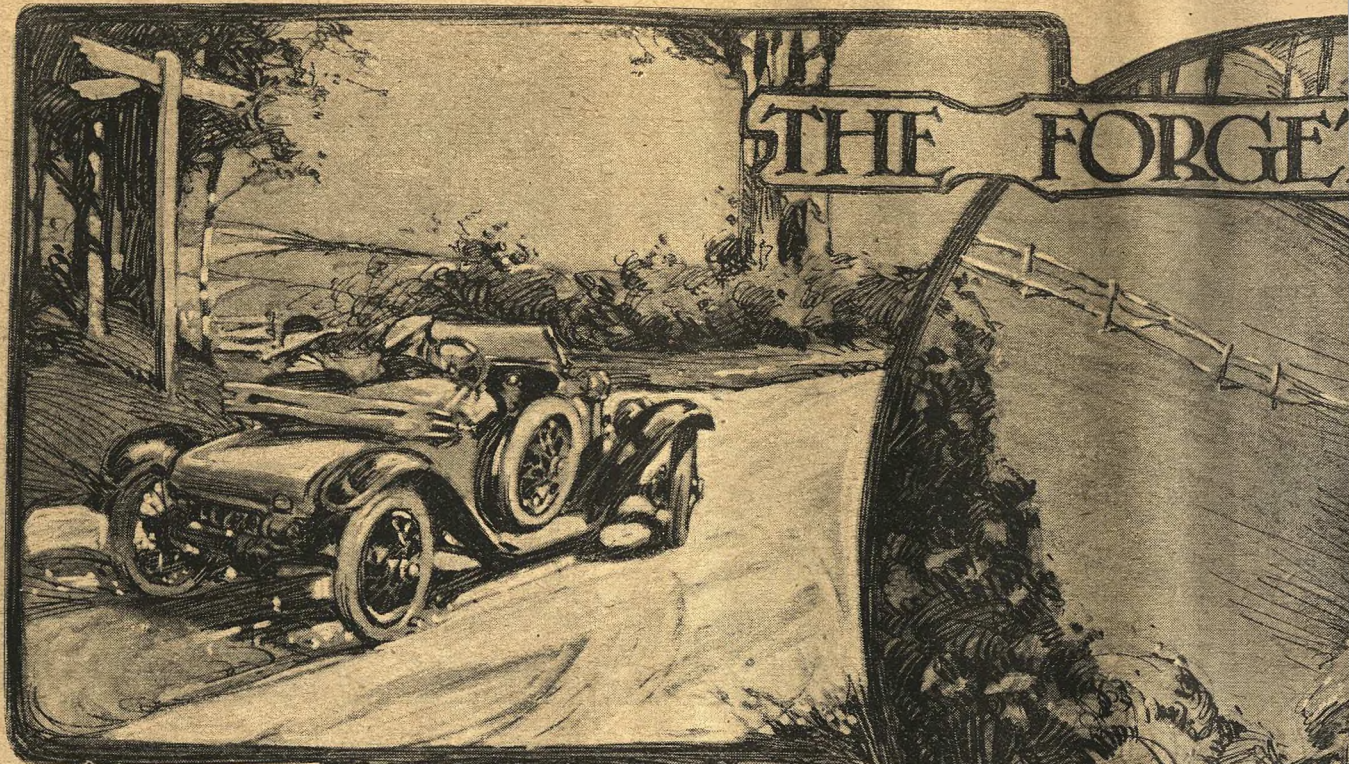
Another compensation in living away from a station

is that rents are very considerably lower than those obtaining within the walkable radius, and in the circumstances of many a man's income the saving to be so effected may make all the difference as to whether he is able to indulge in the luxury of a small car at all or not. But the man who elects to live in the country and can afford to keep a car will generally find himself baulked by a peculiarly irritating circumstance; he can motor to the station, but there is no convenience for leaving the car until his return from town in the evening. The railway company will not have it anywhere at any price, and in most cases there is no one else to take it. In a few instances there may be a publichouse stable, and in fewer still a local garage, but as it is quite the exception for these to be situated close to the station, time is lost over the odd bit to be done on foot. And if remaining in town late—as when going to a theatre, or being detained unexpectedly over business affairs—there are difficulties in the way of getting the car after eight or nine o'clock in the evening, even when able to notify one's movements beforehand.

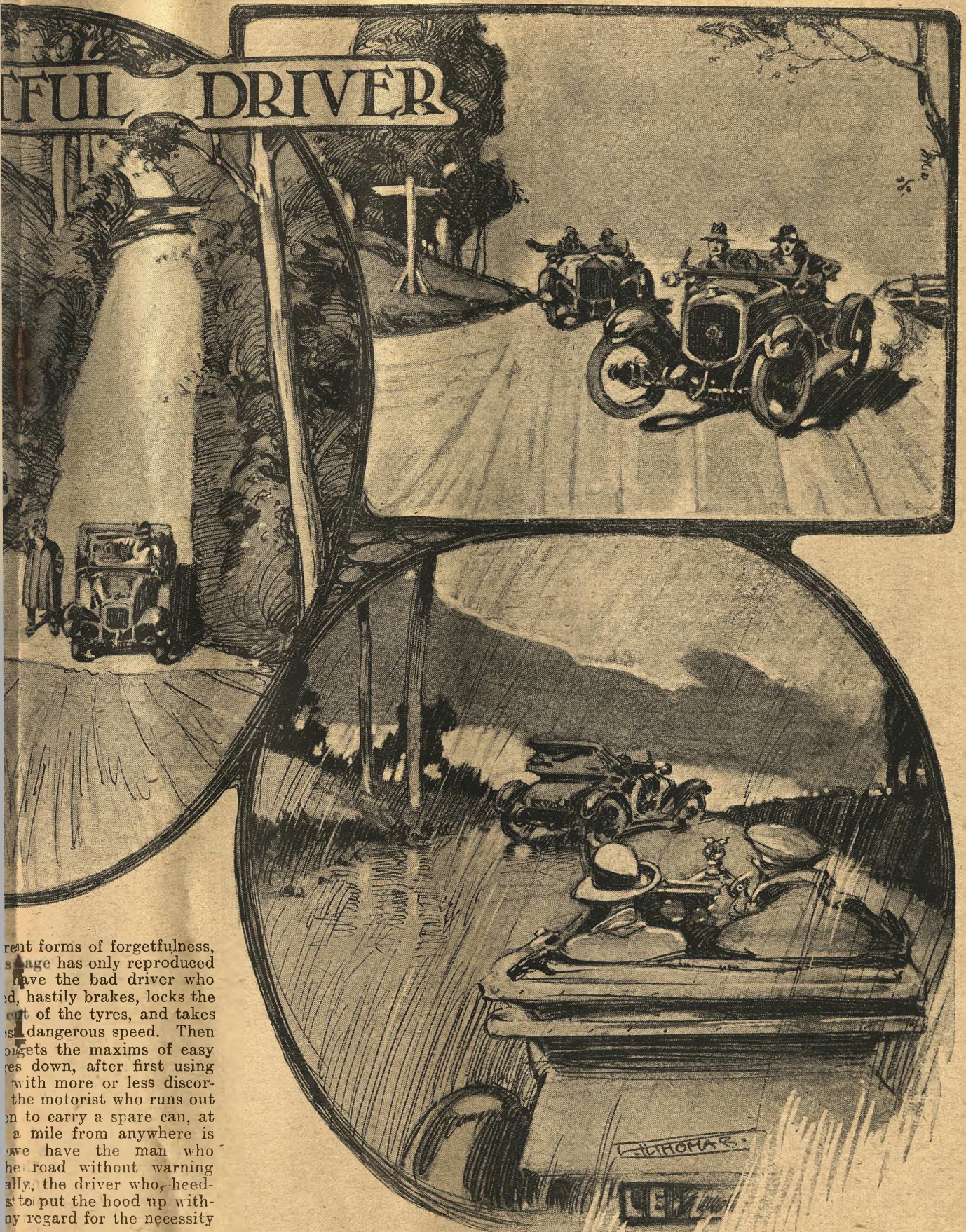
What is needed is shed accommodation, situated close to the station, with someone in attendance up to the time of the last train in. No one could provide this so well as the railway company itself. Almost invariably there is land to spare adjoining the station and on the company's premises, while the station staff would always be on the spot. At the first opportune moment the companies should be pressed to provide facilities of this nature at their outer suburban stations. It would unquestionably pay them to do so, not only directly, through garage charges, but indirectly, through developing the remoter parts of the neighbourhood and so increasing the number of their travelling customers. Constructed on the lines of the special corrugated iron, cement-floored cycle sheds which have been put up at many stations, a garage could be provided which would yield an adequate return at quite a moderate scale of charges, say, for small cars, 9d. a day to casual travellers, and 3s. 6d. a week to season-ticket holders.

R. W.

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THERE are many dif-  
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great forms of forgetfulness, the page has only reproduced the bad driver who has suddenly, hastily brakes, locks the wheels, and takes the air out of the tyres, and takes the car to a dangerous speed. Then he forgets the maxims of easy driving, and goes down, after first using the brakes with more or less discretion. The motorist who runs out to get a spare can, at a distance of a mile from anywhere is a bad driver. We have the man who drives on the road without warning, the driver who, heedless, fails to put the hood up with any regard for the necessity of protection.

## From the Very Beginning.

### A Series of Articles on Common Tools and Their Uses.

By a Practical Mechanic.

#### III.—WORK AT THE BENCH.

FOR some people the craftsmanship of bench work has a fascination in itself, for others it is a means to an end—the end of getting on the road again. Both classes often begin in the middle, thinking about the work, instead of at the beginning, with the bench itself. It is almost impossible to work well or quickly on most of the amateurs' benches one sees. Shaky, badly lighted, and with a most inadequate vice, one can neither see the work nor hold it.

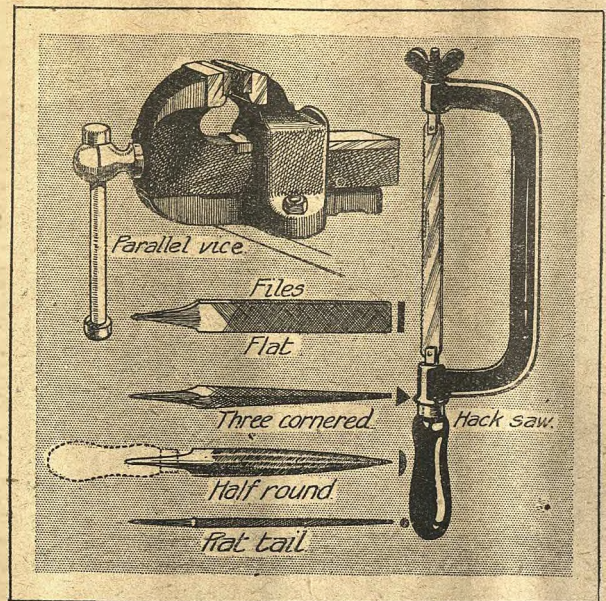
Now, as every man who does odds and ends of his own work needs a bench, it is surely worth while to have a good one. It must be firm, and in the best available light, with an adequate vice properly fastened down. Vices less than 4 ins. in width of jaw are of little good. Even in war time one may spend 30s. on a vice, for it lasts a long time, and is in many ways useful. The bench cannot be too solid, and should be of such a height that when the vice is mounted on it the top of the jaws is on a level with the worker's elbow joint. Beech, 2 ins. in thickness, makes an ideal bench top, but is too expensive for the ordinary man. Usually some local builder has old planks and rough wood that can be made to do.

#### The Use of a File.

Filing is the work most associated with the vice. It is difficult to do well, the human arms being ill-adapted for the horizontal stroke required, and much practice and attention must be given before it is learned. The first thing for a beginner to remember is that a file cuts only on the forward stroke, like a saw, and that therefore the pressure on the return stroke must not be heavier than will just keep the file on the work. The working strokes should be steady and with an even pressure from tip to heel of the file. The man who merely wants to get on the road again will say "Why bother about trying to file properly?" and the answer is that by taking a little interest he is able to do it quicker and better every time.

One need never grudge spending money on files. To have good and suitable files saves two valuable things—time and labour. The original cost is low, and the upkeep absurdly small: 5s. a year will keep the files going in an amateur's workshop where a good deal of work is done. All files should be fitted with handles, and a man wants a couple of big flat files for heavy work (12 ins. is a good size), a second cut (rather a rough file) for taking off a bulk of metal, and a smooth file for finishing. In addition to these several smaller ones are wanted: 6 ins. or 8 ins., round, square, etc., for different jobs, and it is a great advantage to have four or five quite small ones, 4 ins. long, for more delicate jobs. It is a thankless task to ease some small brass fitting with a file meant for work on a 2 in. shaft. Although cheap, files pay for careful keeping; they should always be kept in a rack, and never in a drawer. No one would keep saws all mixed up anyhow in a drawer, and the teeth of a file are more brittle and almost as easily chipped as those of a saw.

The hack-saw is another much abused tool that gets scant justice and no mercy. The amateur—and the young garage hand—look upon it as a tool to hack off stuff with somehow, and that exactly



Various tools described in the article.

describes all it will do for them. With a good blade and firm strokes only just heavy enough to make the teeth enter, a hack-saw will really saw at a rate and with an ease that astonishes the uninitiated. The beginner presses far too heavily on the saw, and takes little footing strokes of about 3 ins. With an 8 in. blade—a common size—strokes of 7 ins. should be taken, and the saw, if used carefully, will saw and not hack.

#### The Right Chisel.

Hard chisels, again, are made to cut with, and their edges should be sharp, though the sides meeting at the edge must form a less acute angle than those of a wood chisel—about 60 degrees is right for ordinary use. Most hard chisels one sees in tool kits have no edge, being rounded and blunted and gapped where the edge should be. It may come as a surprise to some to learn that tradesmen who have hard chisels much in use sharpen them frequently on the grindstone.

#### Oiltight Joints.

In many repairs it is necessary to make joints pressure-tight or oiltight. Valve caps are an instance of the former, and the crankcase of an engine of the latter. Valve cap washers are too often made to do duty long after they should be superannuated; on a car that is supposed to be decently cared for my own rule is never to use them more than twice. If a man wishes to be very economical he may anneal them by heating to a cherry-red and quenching, and so use them once or twice more. A little gold size smeared on cap and washer is a help towards a sound joint. It should be left to set all night before the engine is used or the compression tried. Crankcase joints are generally too well machined to need any jointing compound, but gold size may be used if there is a leakage, and will set the joint pretty firmly. It should have 24 hours to set before oil gets to it.

Washers between cylinder and crankcase are generally of brown paper, but in some newer engines a thicker washer, perhaps  $\frac{1}{16}$  in., may be found. This should be replaced by one of the same thickness, since probably the makers fitted it to lower the compression a little. It is true the difference is small, but the modern mettlesome engine is sensitive.

(Concluded.)

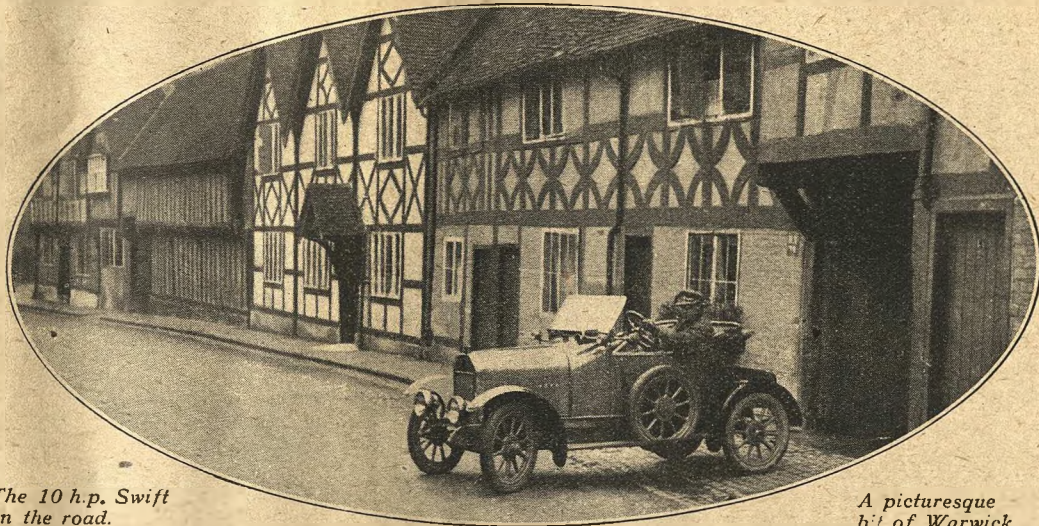


## THE CALL OF THE ROAD.



## THE JOTTINGS OF JOHN GILPIN, JUNR.

400 MILES WITH AN ARISTOCRAT OF LIGHT CARS.



*The 10 h.p. Swift  
on the road.*

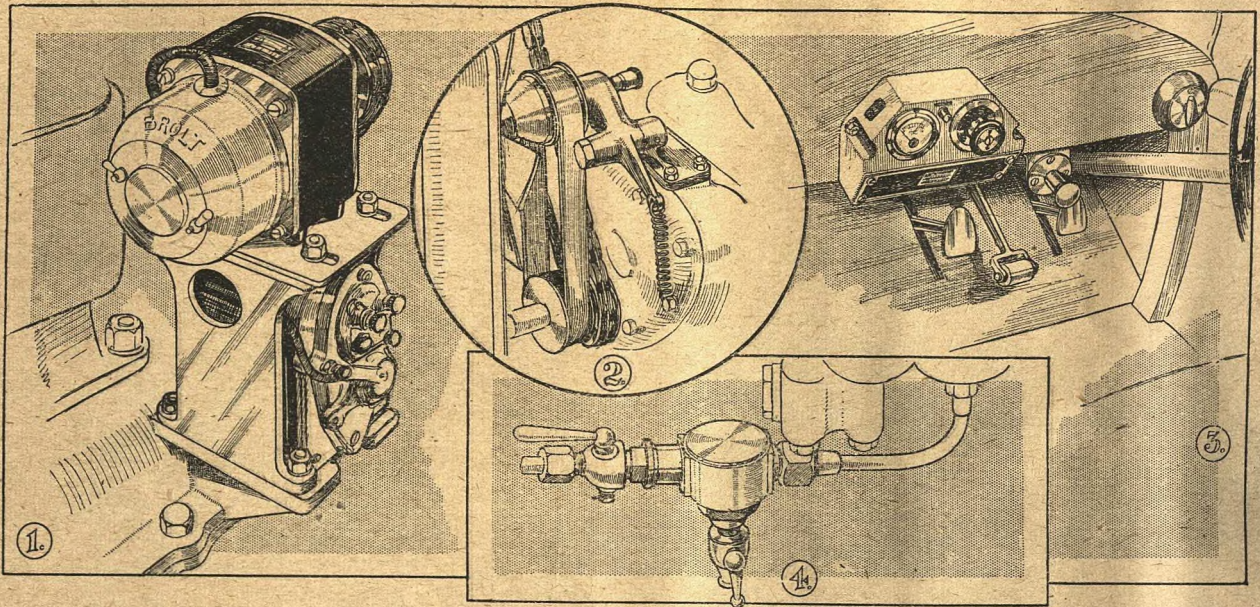
*A picturesque  
bit of Warwick.*

**E**NGINES of various light cars differ very widely in their running. On some, one would hardly know that there was an engine at all; on others, one has to study the power unit all the time, avoiding the Scylla and Charybdis of too low or too high an engine speed: the harsh running of the one and the periodic vibration of the other. To get past the latter point often means driving at a speed that is too great for comfort. There is a fussiness about such an engine which makes it interesting for a time, but rather annoying at the end of a long day's run, when it becomes difficult to keep the car moving quietly in the welter of main-road traffic nervously anticipating police traps. I always think that if, under such circumstances at the end of a long run, one can quietly "pobble" along at about 18-20 m.p.h. on top, frequently slowing and accelerating, and at the same time loll back in the car in the most restful position, the best proof of the flexibility of an engine is supplied. On some cars the acceleration is so great that a very gentle depression of the pedal is necessary to avoid snatching, so that a wavering foot will cause the car to bound along in a series of back-aching hops. A car like that has usually to be driven fast all the time, which is not what every user desires, however attractive a semi-sporting model may be to those who love to hold their own with anything on the road.

One very wet week-end—and those in May have been chiefly that—I took over a 10 h.p. Swift for a fairly extended trip, and am moved to pen the foregoing because this example of a leading light car shows that it is possible to have a perfectly silent, silky-running, flexible engine that at the same time is exceedingly fast. We often hear of cars that run from 5 m.p.h. to 50 m.p.h. on top gear, but this is usually under very special conditions or the result of super-tuning. For an ordinary works car, such as this was, that is in constant hard service, that has endured more than one driver and many thousands of miles, its performance was very noteworthy.

The test of the Swift was in two stages, a colleague picking the car up in Coventry and bringing it to town by a circuitous route. At the end of 130 miles he was most enthusiastic. "She's fine, she will do 50; she purrs like a cat, but she gets her claws out when you change down," he said. And it was so. We took it for a run round the houses, and after three good changes and two very bad ones, without there being any apparent reason, we returned to investigate. The gearbox seemed unduly warm, the gear grease had liquefied, and was finding its way out through the main bearing in the direction of the brake drum, and the cause of the trouble was suspected to be a new bearing in the layshaft which had not run in. However, the junior member of the staff patriotically sacrificed his new suit, packed Price's Belmoline round the leaky bearing, and removed the foot brake complete for cleaning. Of such stuff are heroes made. Thereafter it was only necessary when double clutching to get the gear lever in smartly, not giving the layshaft time to slow down when the clutch was out, and after a further couple of hundred miles, when the bearing had finally settled down, gear changing became quite normal.

I speedily found that the Swift was a remarkably lady-like car in traffic, notwithstanding its masculine turn of speed, and although it has good acceleration, the seats do not punch you and your passenger violently in the back when the throttle is opened. It is a car on which you hardly ever have recourse to first speed, for on second gear, which is 7.4 to 1, it would take practically any hill in the country, and with a particularly flexible clutch it was never necessary to start away on first, which is merely an emergency gear of 18 to 1 that no hill in the country could conquer. Its top-gear performance, however, was the most amazing feature, for the running was as silky, silent and as flexible as one could desire, whether the speed was merely a walking one or 50 m.p.h. So smooth was the running and so excellent the springing that at 30



#### DETAIL REFINEMENTS ON THE 10 h.p. SWIFT.

(1) The bracket carrying the Brolt lighting dynamo above the magneto, with provision for adjusting the Whittle belt drive. (2) The spring-tensioned fan belt drive. (3) The dash, showing switchboard, oil indicator, etc., and below, the roller accelerator pedala. (4) The petrol filter between the tank and the carburetter.

m.p.h. it was difficult to believe the speed was not more than 20, for speed judging is nearly always a matter of engine fussiness multiplied by road shocks.

The springs are the ordinary half-elliptic type, both back and front, but the back ones are of more than average length, and with the addition of shock absorbers of the J.M. type they would be very nearly perfect, a little refinement which I believe will figure in the post-bellum model. Thus, on a very bad road, the type that is so prevalent now after being knocked about by Army lorries, one could glide along without being shaken to bits, but on certain surfaces a gentle swaying motion is sometimes set up, which a sudden and violent shock will painfully accentuate, which is just where a shock absorber would get busy. Probably, with this addition to the present excellent springing, one would appear almost to float on air.

The steering is the best I think I have ever struck on any car, being by worm and segment, and irreversible. Most of us are familiar with the type of car in which, as soon as a bumpy stretch is reached, both hands must be used to grasp the steering wheel to keep the front wheels in the direction desired. On the Swift, however, the steering seems to be a thing apart. One hand only is required.

Very few cars have so many refinements as this. Almost the first thing that strikes one is the very large number of screw-down greasers, and I am sure there cannot be a single moving part on the Swift for which lubrication is not provided. Gauze filters, not only for the petrol tank but for the radiator and oil-filler orifices, are provided. The oil-filler, too, is fairly large, and, stranger still, quite accessible for an ordinary quart can without recourse to a funnel. On many light cars one would think that the last thing the designer ever expected the owner to do was to fill up with oil. There is, further, a Bowden-wire-actuated indicator on the dash, as well as a tap in the sump, to indicate when the oil falls below its proper level. Another little detail, quite trifling, but

B20

none the less acceptable, is the provision of a bracket to hold an oilcan just above the engine in front of the dash. The belt drive for the fan is usually one of the minor inconveniences of the average car, as it requires continual shortening. On the Swift it is kept in constant tension by a spring. The neat mounting of the dynamo—this model is fitted with a dynamo lighting set—a roller type of accelerator pedal and the petrol filter are illustrated, and these are by no means the only other refinements.

The bodywork is very substantial, and the lines are distinctly graceful. The seats, I think, could be tilted with advantage, which I am told is a matter that is being carried out in the post-bellum model, while a better position for the foot brake could be found than immediately behind the gearbox, where oil is likely to leak on it. This, I am told, is also receiving attention in the model to be sold after the war.

The car struck me as being very economical, the petrol consumption working out from 40 to 45 m.p.g., with a Zenith carburetter—a great favourite of mine, owing to its simplicity and fine adjustment. The oil consumption also is very light, at least 1000 m.p.g., but I think it is better than that, for the one fill of oil lasted for the week-end, in which the car covered some 400 miles.

The Swift company, of course, are not at present in a position to turn out many cars—if any—but they have been quietly experimenting for a long time past, and the model to be produced after the war, in which the only points that one can criticise are being attended to, is going to shake up the industry a little. It will be a serious competitor in any type of competition that calls for an exceedingly flexible, fast, and powerful engine, besides general reliability and economy, and it approaches very closely the ideal of the average user. I rather fancy that after the war the 10 h.p. Swift is going to stand out as a kind of Rolls-Royce of light cars. It will be worth waiting for.

JOHN GILPIN, JUNR.

# THAT DIRTY PATCH!

DUNLOP: You've been routing round your tool-box for a patch! You've at last found a couple, but they're both so covered with grease and dirt that you don't know whether to use 'em or not!

Let me show you some DUNLOP MOTOR SUREPATCHES. They're packed in neat little dirt-and-grease-proof envelopes, so that every patch is kept perfectly clean and your Surepatch is ready to do its work under proper conditions.

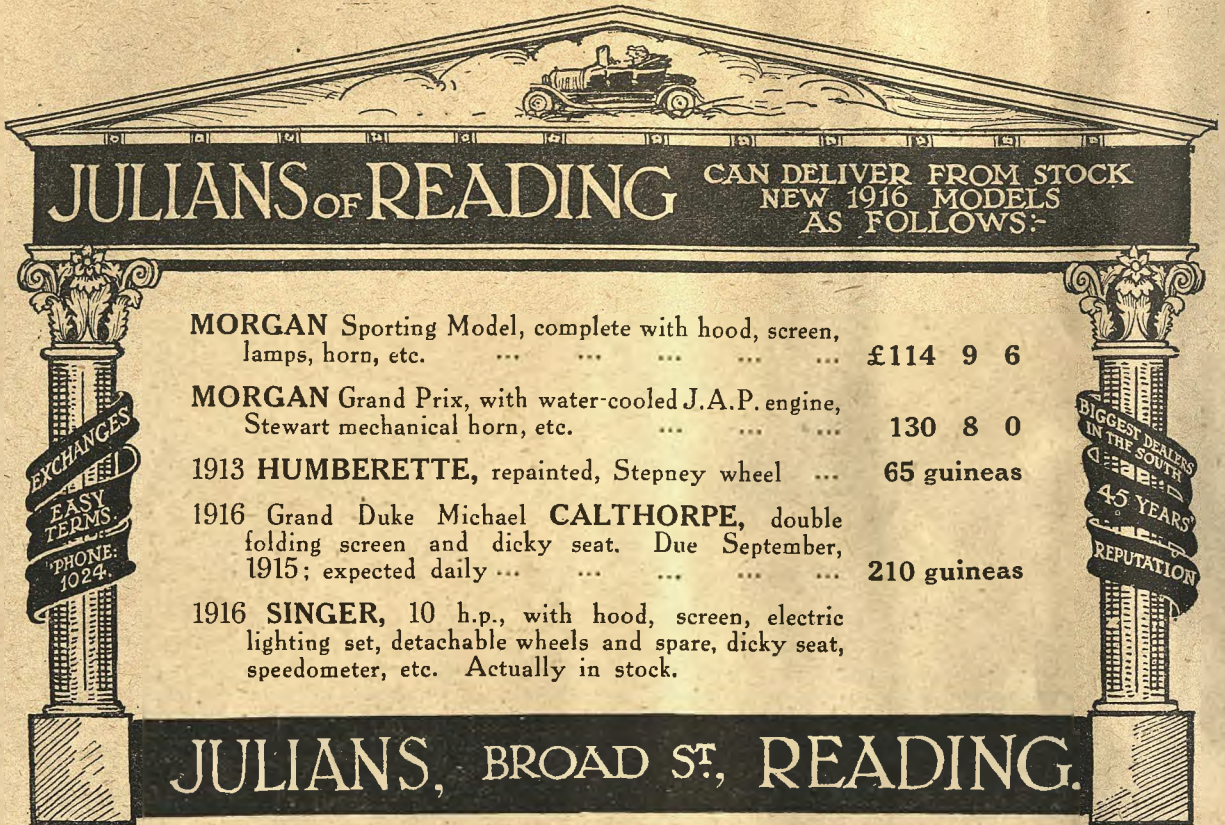
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# THOUGHTS & OPINIONS

## The Suggestions of To-day may be the Realities of To-morrow

**NOTICE TO CORRESPONDENTS.**

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

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

### ORIGINALITY IN SPRINGING.

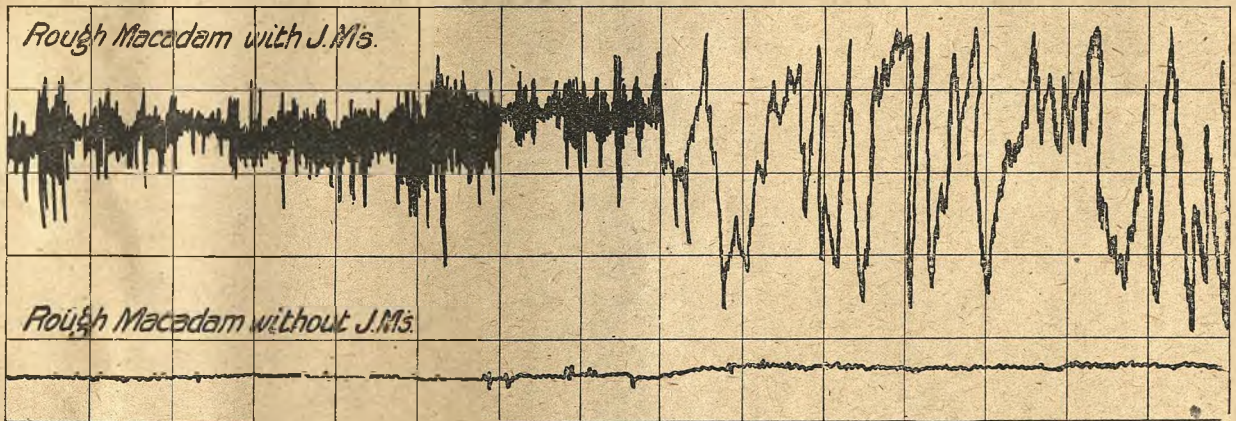
We have read with much interest Dr. Low's able article in your issue of 15th inst. upon originality in springing, but, if an honest desire to discuss the question of how best to secure personal comfort over rough roads can be conceded to a concern interested in shock absorbers, we would then beg permission to make a few comments.

In the first place, Dr. Low's experiments would appear to have been directed to ascertain the effect of road bumps upon tyres. The experiments show that the immediate after effects of road bumps is to flatten the tyre, and consequently put extra strain upon it. The extent of that flattening depends upon how much of the full weight of the car is raised by the bump, for the more weight raised, the more weight there is to come down again, and the greater will the tyre be flattened when the wheel touches the road after surmounting the bump. Interpose a spring, and it will take up or absorb some of the upward movement of the axles, leaving only a part to be communicated to the body of the car. There will then not only be less weight to come down again upon the tyre, but the

the axle, resulting record would be practically a straight line, for the paper would simply travel along horizontally in front of the pencil. If, on the other hand, the body and the axle were free to move independently of one another, as would be the case if springs were interposed, the pencil would record a very irregular line, depending upon the amount of freedom between axle and body, i.e., upon the flexibility of the springs.

The car was first run on its own springs upon a piece of smooth wood pavement, and then on a very rough road. In the first case we obtained a line almost as straight as a ruler; in the second there were small but very sharp irregularities. These records showed that in both cases the body of the car was playing practically the same time as the axle, and we can all imagine the effect upon our spines of a ride upon an axle.

Then we fitted our shock absorbers, and with the same load and at the same speed we ran the same car over the same two pieces of road. The record on the wood pavement was not quite so straight as before, but had continuous and sudden, but small, deflections, showing that the slight axle movement under



Two of the charts obtained in testing the flexibility of the springs, with and without shock absorbers, on a rough road. Without the shock absorbers the line, it will be seen, is almost continuous, owing to the body of the car moving practically solidly with the axle. See accompanying letter.

downward movement of the body of the car will be deferred. The tyres have thus a smaller total shock to bear, and that total is delivered in two instalments, obviously much easier to bear. So that Dr. Low would appear to have demonstrated in a very practical and convincing way that the springing of a car has much to do with the life of tyres.

It may interest your readers to know that just before the war broke out we had completed a series of experiments with the object of showing graphically exactly what difference was made to the motion of the body of a car at speed (1) with coiled springs interposed between the flat springs and the body, and (2) without. Directly above the rear axle we attached to the body an apparatus carrying two reels, one filled with a long strip of paper ruled closely longitudinally and at regular intervals vertically, which strip was made to wind off that reel on to the other as the car progressed, the motion being obtained from a pulley on the propeller shaft. To the rear axle itself we attached a holder carrying a pencil, this being adjusted so as to put a record upon the paper as the car progressed. If, for instance, the body of the car was solid with

these good conditions was absorbed before it reached the body. The chart over the rough road was, however, very striking. The vertical movements were rapid, of great extent, most irregular, and very sudden in both directions. Had the body of the car moved in perfect sympathy with the axle, no such vertical lines would have appeared. This chart, therefore, showed conclusively that the axle movements were not communicated to the car, owing to the interposition of the shock absorbers. We enclose herewith the four charts referred to.

There is a further point which might be usefully elucidated—the movement of the body of a car. If no springs at all are used, it would correspond exactly with the movement of the axle. If springs are interposed, such movement of the body as is originated by the axle is then of a totally different outline, and this could only be obtained graphically by running the car, with projecting brush attached to body, alongside a wall. But it would need a clever driver to travel at 20 m.p.h. at such a distance from the wall as to ensure a continuous mark thereon without breaking the brush!

## THOUGHTS AND OPINIONS (contd.).

## A Shock Absorber Improvement.

As one interested in the question of road construction and the effects of the springing of motor vehicles on the wear of roads, I wish to thank Dr. Low for his very able and original contribution to your paper on the important question of spring design.

One cannot attach too much importance to the scientific factors in the arrangement of springs to absorb the shocks usually met with on modern roads, such as potholes and waves. With regard to the question of waves which are formed almost invariably by motorbuses and other heavy and fast vehicles, the effect to the occupant of the light car, even when fitted with shock absorber springs, is anything but pleasant, and often causes skidding of the rear wheels. This must result in considerable wear and tear and also loss of power. Therefore, I suggest that some of the principles dealt with by Dr. Low might very well be applied to the design of the springing of heavier vehicles of the motorbus type. Even with a strong road these vehicles will deform the surface, and it would seem that the unsprung weight is largely responsible for it.

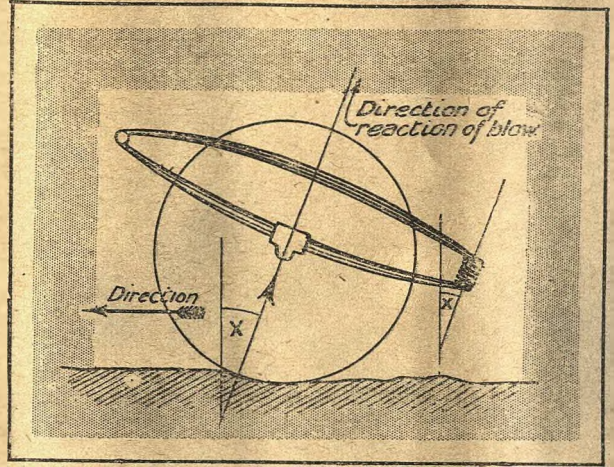
With respect to springs for the light car, and, indeed, heavier vehicles, I have often thought that their efficiency was considerably reduced by the shock absorption having to take place vertically, whereas the direction of the reaction of the blow of the wheel on an obstacle, such as a wave or hole, is usually opposed to that of the vehicle.

The tractive resistance increases with speed—in other words, the "lead" of the body of the car over the front wheels tends to increase whilst the lead of the driving wheels in front of the body tends to increase in a similar proportion. In the three-quarter elliptical springs fitted with J.M. shock absorber springs considerable improvement should result by having these fixed at a slope, and arranged for a speed of 20 to 25 m.p.h., as shown in the sketch, which is, of course, somewhat exaggerated. This would prevent any end thrust on the joints of the fixtures of the springs.

The same reasoning applies to the springing of the front pair of wheels, in which case it would tend to prevent the

body of the car getting the lead on the front axle. It would also reduce the force which pushes the outer cover round the rim. An ideal but impracticable way would be to have the angle  $\times$  variable with the tractive resistance or speed.

I think Dr. Low has done a very useful service to motorists and also to road engineers, and if the war had not



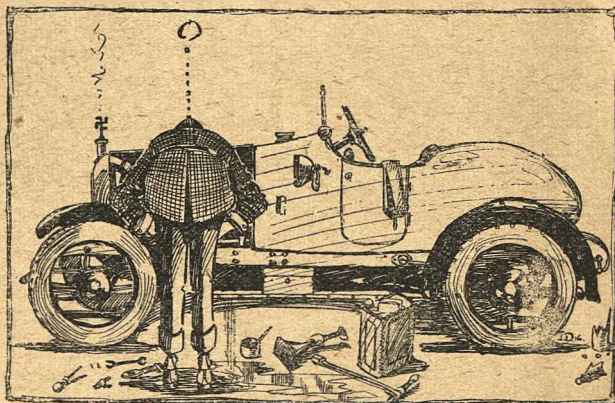
Illustrating the letter from Mr. Leeming, who suggests an improvement would be obtained if shock absorbers were fixed at an angle, arranged for a speed of 20 to 25 m.p.h.

happened the question would probably have resolved itself into vehicle design versus road construction, whereas now the responsibility must rest largely with the designers and builders of the vehicle.

E. LEONARD LEEMING, M.Sc., Assoc. M.Inst.C.E.  
22, Langdale Road, Victoria Park, Manchester.

## The Ill Effects of Giving Up Motoring.

As one who has gained health and strength from motoring, I should like to say how thoroughly I appreciate your efforts to uphold the cause of those who need fresh air after close confinement to business. Owing to the anti-motoring campaign I decided to economize this year by giving up motoring: the result was a breakdown, absence from busi-



DON'T USE A . . . . FOR PLEASURE.

ness and a doctor's bill! Many of our clerks are now in the Army and others are likely to go; I am lame and therefore unfit for military service, and am having to put in much overtime, and am also informed that I need expect no summer holiday. There must be hundreds in similar circumstances, and if we are to do without the benefit to be gained from motoring at week-ends it will mean that we shall be incapacitated for work at a time when we are needed.

Rotherham.

"A WICKED MOTORIST."

B24

## Wear of Front Wheel Tyres.

With reference to the article by "C.W.F." on "Wear on the Front Wheel Tyres," it is excellent advice, but until detachable wheels are so made that they may be put on the hub either way round I, as a novice, entirely fail to see how "C.W.F.'s" idea can become practicable. F. C. JOHNSON, Tinsley, Sheffield.

\*\* By reversing the tyre on the wheel.—ED.

## "Summer Time" and Lighting-up Time.

Although by the "Daylight Saving" scheme we shall all be tricked into getting up an hour earlier, thus enjoying more daylight, much to our own advantage, it seems a nice point as to what effect this will have on lighting-up time. The new clock time will be legal time, and, presumably, legal sunrise and sunset may be taken as given in the almanacs, allowing, of course, the proper difference for distance from Greenwich.

In this case some unfortunate motorist may quite conceivably be held up for driving without lights half-an-hour before the sun has actually set, although, on the other hand, he would be within his rights in putting out his lights as early as an hour and a half before the sun appeared above the horizon—if, indeed, this were any compensation!

It is sincerely to be hoped that all doubt will be set at rest by the issue of instructions defining lighting-up time by the clock as one hour later than shown by the almanac. Otherwise, the matter will be left to the local authority, which in many cases will mean the local policeman, whose discretion, however well-meaning his intentions, is not always to be relied on. And the poor motorist will never quite know what to do in strange counties!

P.G.F.

Derby.

\*\* The lighting-up times given each week in THE LIGHT CAR \* AND CYCLECAR will be correct, with slight variation for different localities not mentioned and other days of the week.—ED.

## THE STEAM LIGHT CAR.

### The Wilton Boiler.

Some few months ago an article appeared in "Aeronautics" which drew attention to the possibility of using the steam engine as a power unit in aeroplanes, and the writer of the article had actually designed an engine which was sufficiently light and reliable. The boiler was the Wilton, which is remarkably efficient, light in weight and small in size; the engine was the uniflow engine of Prof. Stumpf, in which cylinder condensation is reduced to a minimum. So light was the power unit that it was found possible to include a condenser, and if it is possible to use the water over and over again, it is no longer necessary to stop every 50 miles or so to replenish, which is one of the disadvantages of the steam car. Like "T3711," I think that a properly-designed steam light car would be a step towards the ideal.

C. H. ROBERTS.

36, Westminster Mansions, Gt. Smith Street, London, S.W.

### The Case Against the "Tin Lizard."

Your correspondent seems to have left out one or two important facts which serve as barriers to a steam light car. First, its weight. This is a most important factor, as a steam car has to carry at least twice as much fuel (oil and water) as a petrol car, and the engine and boiler combined weigh considerably more than a petrol engine; an increase of wear on the tyres must be the result. Secondly, if paraffin is used as fuel for the burners, as was suggested, its objectionable smell cannot be kept away from food when picnicking, etc.,

C. H. ROBERTS.

### A Belt Drive Problem.

In your issue of 10th April, in "The Position of the Industry To-day," you say that belt drive from the engine pulley is a failure. I am very interested to know why this should be, as in theory it seems excellent. I knew the old type of cyclecar well, with fast-running chain, and it certainly was not a success. I am very keen to build a light four-wheeler when I get back to England, and my idea was something like this:—6 h.p. J.A.P. or large single-cylinder engine, 1 in. belt over 8 in. engine pulley to 10 in. pulley on combined clutch and gearbox, such as the Jardine, and thence by short chain to solid live axle. With a very light two-seater body and deck-chair type of seats, I think the weight could be kept down to that of a sidecar combination. Would not the belt be running under better conditions than on a motorcycle.

Egyptian Expeditionary Force.

G.O.

\* \* Every attempt to use 1 in. belt drive from the engine has proved unsuccessful. Even double belts on the very early G.N.s. from the engine to a countershaft, and with a twin engine, proved unsuccessful. With a single-cylinder engine the "snatch" on the belts, which inevitably breaks them, would be worse. The belts are also in a bad position for receiving oil intended for the engine, which gets distributed in other directions. Chain drive from the engine was much more successful, and if only fairly large "silent" chains were used, there would be no trouble and no breakages.—ED.

### A Morgan for a Doctor.

I used an air-cooled Morgan for my work for nine months before going abroad. My practice is a country one in a very hilly district, and includes some very indifferent roads. I have had both sporting and de luxe models, and strongly recommend the latter, as the former, although affording ample protection, is very dusty. I have found the car absolutely reliable; in fact, have only been held up once or twice owing to grit or water in the carburetter, and then only in the very worst weather. There has never been any difficulty with starting, but I found the M.A.G. engine more liable to gum up than the J.A.P. The machine is perfectly easy to handle in traffic, and, with a heavy-rubber back tyre, such as the Stepney, the danger of skidding is very slight. My only real skidding has been on frozen snow. From my first back tyre I got 3000 miles, and the front tyres were good when I disposed of the machine. My second machine has so far done about 3000, and the back tyre is still in excellent condition. I was warned against the danger of a single back wheel, both on account of wheel slip and punctures, and can only say that in about 6000 miles I have never had to touch a tyre on the road, and have driven in a hilly district over very muddy roads without much difficulty.

or even from the car itself. What is more annoying than remarks made on the smell of so-and-so's "Tin Lizard."

As to a steam car's reliability what more convincing proof is needed than the services of steam buses that are daily running in London? Even if the steam light car is seriously taken up, it has to make up a great deal of leeway.

Many thanks to your journal for the position you are taking against the new motor taxis.

H. V. CURTIS.

14, Merton Road, Walthamstow.

### A New Steam Car.

We were pleased to see a letter from your correspondent "T3711." We agree with him that it is unfair to bar steam cars from entering reliability trials. This, we believe, has done much to oust the steamer. A light no-trouble steamer deserves success. It may interest your correspondent and others to know that we are at present experimenting with a light 10 h.p. steam car—almost a cyclecar—and intend to put the same on the market, say, 12 months after the war. This car, we expect, will travel 100 miles without a fresh supply of water, and will produce steam easily inside a quarter of an hour. One who knows his car will produce steam in eight minutes. It is a well-known fact that the steam producer has always been the trouble with the steamer, but we claim to have remedied this in our generator, which is the subject of a patent, details of which we are unable to give at present. We should be pleased to see other readers' opinions of the future of a light steamer.

J. B. SANKEY.

E. ROXBURGH.

I do not know exactly what "Medicus" implies by "fool-proofness," but if he means a "no-attention" car, then he will be disappointed with a Morgan (and, incidentally, with almost anything mechanical, I should imagine). Provided the chains are well greased and the dog clutches cleaned and oiled every day, the Morgan is always ready for work. The part requiring most attention from anyone who is repeatedly stopping and starting is the clutch, as this has a very small



A Perry light car after the Severn bore had made the road almost impassable.

range of movement, and tends to become fierce unless the leather is repeatedly dressed. From my experience of acetylene, I shall certainly add electric side lamps before I use my car for work again. I would on no account go back to a motorcycle and sidecar.

R.N.F.

France.

### The Severn Bore.

I am sending you a snap of my Perry, by the river Severn, after the bore had made the road almost impassable. The condition of the wheels may be noticed; the soft mud came up to the running boards.

I read the letter from H. M. Parscns with interest. The small tax on the Perry is only one of its advantages.

GEO. PONTIN, N.B.A.

20, Commercial Road, Gloucester.

## NOTES & QUERIES.

Selected Replies to the Most  
:: Interesting Questions. ::

**ALUMINIUM PISTONS.**—"W.F.McH." (Lisburn) inquires the name of a concern that can supply aluminium pistons of about 60 mm. to 65 mm. diameter.—**REPLY:** We should advise writing to Messrs. Bramco, Ltd., 1, Eilys Road, Coventry, or Messrs. Ware and de Freville, Ltd., 6, Great Marlborough Street, London, W.

**POINTS ABOUT MORGANS.**—"W.J.S." (London, S.W.) wishes to know if a Morgan is liable to skid in wet weather; the speed it can obtain; whether it is a good hill-climber; and if it is provided with a reverse.—**REPLY:** The back wheel of a Morgan will skid on greasy asphalt unless a very good non-skid tyre is fitted, such as the Stepney road grip. The speed attained is 50 m.p.h. for the air-cooled model, and 60 m.p.h. for the water-cooled model. It is an exceptionally good hill-climber. A reverse gear is not fitted.

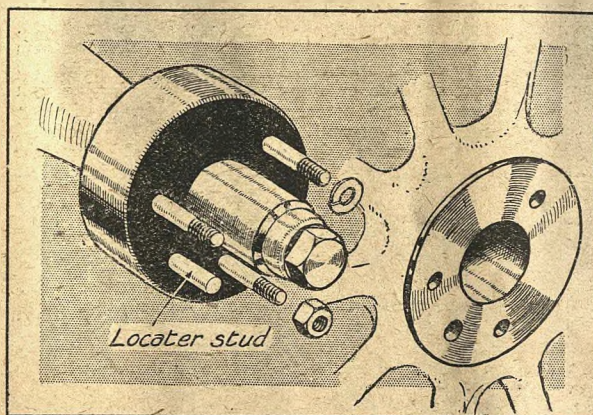
**WIRING OF DYNAMO CUT-IN AND OUT.**—"J.W." (London, S.W.) writes:—"I should be glad if you would explain the wiring of a cut-in and out on a dynamo lighting circuit."—**REPLY:** The exact connections depend on the particular make of lighting set, but, in general, the cut-in comprises a specially wound electro-magnet connected directly across the terminals of the dynamo, and as soon as sufficient current passes through it an armature is attracted which brings into connection two platinum or carbon contacts, which complete the accumulator-charging circuit. So long as the dynamo is running at a certain range of speed, the connection is maintained, but when the speed falls below that required to give charging voltage, the armature of the cut-out is released and the circuit opened.

**TAX ON LIGHT CARS.**—We have an inquiry from a correspondent who has just purchased a second-hand light car, and who is under the impression that, as the 3-guinea tax has already been paid for the year by the previous owner, he will only be called upon to pay the difference between the old tax and the new tax. This is not so. The Inland Revenue duty is paid for the privilege of owning a car of a certain horse-power, and is levied not upon the car, but upon the owner. If a car changes hands a good many times in the course of a year, each owner must pay the tax. The tax to be paid now is £3 3s., and as soon as the Finance (No. 2) Bill has passed through the Committee stage of the House of Commons, a further tax, being three-fourths of the difference between £3 3s. and £6 6s., viz., £2 7s. 3d., will have to be paid, which will enable our correspondent to keep his car until the end of the year.

**GEAR FOR A CYCLECAR.**—"D.J.S." (Leven) intends to build a cyclecar and writes:—"Is it possible to purchase a hub gear, similar to that used in bicycles, strong enough for the purpose of a cyclecar, to drive it from the engine by a chain and thence to the back wheels by two belts? Further, is it possible to have a very low gear driven by chain, the idea being to have a reserve gear for stiff hills, yet retaining the smooth, quiet belt-drive for ordinary running? Do these complete gear arrangements embody a reverse? It seems to me probable that something of the sort (without a reverse) is used on many motor-bicycles, and probably on the A.C. three-wheeler." He also desires to know whether four wheels would be more advisable than three, the ends in view being a speed not exceeding 30 m.p.h., freedom from trouble in running, and low cost of running.—**REPLY:** We are afraid a hub gear would not be strong enough to last any length of time on a cyclecar. There are several countershaft motorcycle three and four-speed gears which would be suitable for cyclecar practice, such as the Jardine or the Chater-Lea, which includes a reverse. The gear on the A.C. Sociable is epicyclic, and has two speeds forward and an optional reverse. One of these might be bought cheap at some large second-hand dealers. There are very few hills in Fifeshire that would call for a special reserve gear. We should say four wheels would be infinitely preferable to three for the sake of comfort, although a three-wheeler is slightly more economical to run.

**CAR FOR A TRAVELLER.**—A correspondent at Ackworth inquires if he can get a good price as an allowance for a 1915 sporting model Morgan of, say, £80 to £85, in exchange for a new light car. He wants a car suitable for carrying a traveller's sample box on the back.—**REPLY:** The price of £80 to £85 could easily be obtained for a 1915 sporting Morgan, which is selling at about £110 second-hand now. There will be some difficulty in obtaining a new car, but we suggest a G.W.K., which has been successfully fitted up for the purpose of carrying traveller's samples.

**DETACHABLE WHEELS.**—"Medicus" (Leeds) inquires if we consider the locking device on the back wheels of the Calthorpe Minor 1915 model practical and sound, for as a medical man practising in Leeds, where the streets and roads are mostly paved with granite setts, and very badly at that, he fears that vibration may loosen the wheels.—**REPLY:** The wheels of the Calthorpe Minor, as with a number of other light cars, are carried on three bolts and a large peg, and secured by three nuts, which are driven up tight against spring washers, the peg being merely to indicate the correct position



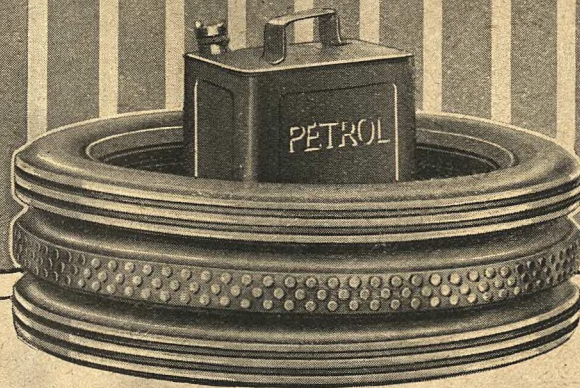
A detachable wheel of the Sankey type. (See reply to "Medicus.")

of the wheel when replacing. We have never found these bolts loosen, providing, in the first place, they have been properly tightened up (usually with a brace) against the spring washers.

**A WICK CARBURETTER.**—"B.R." (Windsor) is thinking of having a wick carburetter fitted to his air-cooled Morgan, and writes:—"I contemplated making a pipe to bolt on to the outside of exhaust pipe and carried round to the main air intake of the carburetter, but am wondering if this would be of any use owing to the very long induction pipe of a Morgan and the distance from the exhaust pipe to the carburetter. I am under the impression that the air would not be sufficiently warm to be of any use."—**REPLY:** If you can obtain a wick carburetter at present, and providing it can be well protected from cold air and placed close to the engine so that the hot air can be drawn from a pipe adjacent to the back of one cylinder, we think it will prove satisfactory. We should advise covering the carburetter with a sheet of tin, partially enclosing the cylinders in order to keep cold draughts of air away from it. We have found this carburetter gives remarkable economy with increased acceleration and power.

**CARRYING FOUR UP.**—"R.S." (Clitheroe) writes:—"Having seen a four-seater Calthorpe light car, which from outside appearance does not strike me as being so strongly built as my 8.9 h.p. Hillman, I would like to know if the chassis of the former is the same as is employed in the two-seater, and whether I should be safe, or wise, in carrying four persons of about 11, 9, 9 and 7 stone respectively in my Hillman if driven at a reasonable speed. I can manage three persons of 11, 9 and 7 stone on the seat for two, and would like occasionally to carry the fourth on a dicky seat."—**REPLY:** The Calthorpe four-seater has not the same charms as the two-seater, but is altogether stronger. As your 8.9 h.p. Hillman is of fairly sturdy construction we have no doubt that it will carry the load of three or four persons safely. At the same time, a vehicle that was constructed for two is being put to a very unfair test when the load is increased in the way suggested, and we do not think it will do the car any good. You must be prepared to change down early.





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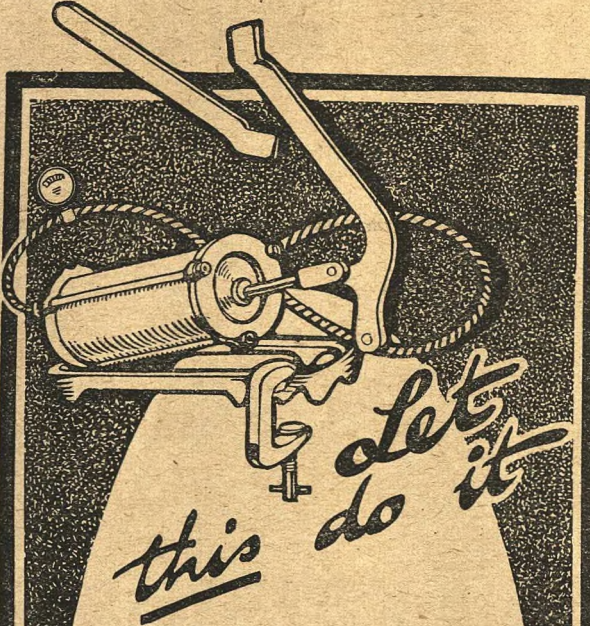
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R.H.S.

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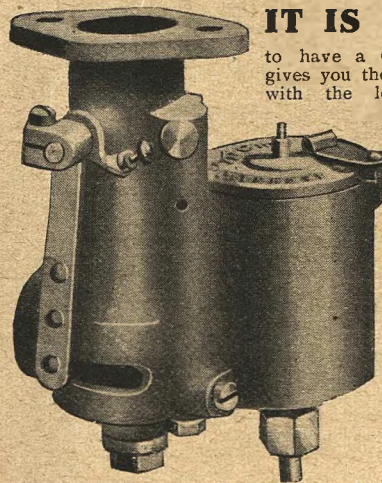
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Size 25	Suitable up to 65 mm. ...	<b>£5</b>
" 30	" " 79 " ...	<b>£6</b>

Write us to-day for full particulars.

**THE TYLER APPARATUS CO., LTD., 11, CHARING CROSS RD., LONDON, W.C.**

**TO THE READER**

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

**NEW**  
OR  
**SECOND-HAND**  
LIGHT CARS, CYCLECARS,  
ACCESSORIES FOR SALE AND  
*Sundry Advertisements*

**RATE FOR ADVERTISEMENTS IN THIS SECTION**  
SIXTEEN WORDS, 1/- (MINIMUM).  
6d. per eight words after.

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**BOX NUMBERS.**—Advertisers desiring to have replies sent care of "The Light Car and Cyclecar" may do so on payment of a nominal fee of 6d. to cover booking and cost of forwarding such replies. The words Box , c/o "The Light Car and Cyclecar," count part of the advertisement.

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

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

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

**Midland Offices:**—9 & 10, Burlington Chambers, New St., Birmingham. Telephone No. 2498 Midland. Telegrams: "Presswork, Birmingham." 6, Warwick Row, Coventry. Telephone No. 983, Coventry. Telegrams: "Presswork, Coventry."

**Northern Offices:**—196, Deansgate, Manchester. Telephone: Central 2467. Telegrams: "Presswork, Manchester."

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

**LIGHT CARS AND CYCLECARS FOR SALE.**

- A.-C.** Sociable, repainted and overhauled, splendid condition, hood and lamps, £35. Croft, The Limes, Rochford, Essex. 184-a992
- A.-C.** Sociable, 1913, with 1914 improvements, repainted and overhauled, new Liversedge tyre, glass windscreen, hood, jack, and tools. Apply, Cairns, Grimshaw St., Preston. 183-a117
- A.-C.** Sociable, all new tyres and tubes, recently overhauled and upholstered, 3 electric, 1 headlamp, generator, hood, screen, speedometer, new spare chain, tools, clock, good as new, £50, trial given. Russell, c/o Tamplin, Twickenham Green, Twickenham. Phone, 96 Richmond. 184-a105
- A.-C.** Sociable, hood, screen, speedometer, foot pump, jack, horn, tools, etc., tyres good, wants little overhauling, £25. Harry Caton, Albury, Ware, Herts. 183-a103
- A.-C.**, 1914, 10hp, 4-cylinder, 2-seater and dickey, just repainted grey and black, hood, screen, 5 detachable wheels and tyres, 4 lamps, generator, speedometer, clock, horn, £185, 3 months guarantee, 12 months insurance free, tuition free, exchanges and deferred terms 5 per cent. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W. Museum 623. T'de 183-145
- ADLER**, 1913, 2-seater, 10hp, Zenith, Bosch, Stepney, hood, screen, painted grey, absolutely perfect, dickey easily fitted, £75, no exchanges, bargain. Brittain, 27 Waterloo Rd., London. 183-a936
- ALLDAYS** light car, 1913, 8-10hp, 2-cylinder, water-cooled, 3 speeds and reverse, worm drive, detachable wheels, with spare wheel and tyre, hood, windscreen, lamps, horn, tools and spares, in very good order, £90. The Premier Motor Co., Aston Rd., Birmingham. Trade 183-56
- ALLDAYS**, 10hp, 1916, 2-seater, double dickey, dynamo lighting, 2 spare wheels, full equipment, almost new, £190. Alfred Washnag, 65 Gt. Portland St., W. Mayfair 3005. Trade 183-48

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

- ALLDAYS**, 10hp, grey, with green upholstery, dynamo lighting, £195. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-63
- ALLDAYS** 2-seater, single-cylinder, magneto, hood, screen, 3 speeds, spare tyre, Lucas lamps, running order, to clear, £35. 112 Eldon Rd., Wood Green, N. 183-a165
- ALLDAYS** Midget, 8-10hp, 1914, twin-cylinder, screen, detachable wheels, lamps, Veedor, tube, back tyres good, car excellent condition, £85. Harries, Mundesley Rd., North Walsham. 183-a153
- ALLDAYS**, 10hp, 1915, 2-seater, dynamo lighting set, 2 horns, etc., repainted grey, £195. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-100
- ARDEN**, 1914, 10hp, 2-seater, Koh-i-Noor dynamo lighting set, electric horn, Stepney, speedometer, clock, side curtains, tool equipment, tyres good condition, owner joined up, £150. Apply after 6 p.m., Cole, 223 Peckham Rye, S.E. 183-a166
- BABY PEUGEOT.** The call of the moment is "Be economical." 50 miles to the gallon, latest model complete, with 3 lamps, horn, tools, good hill-climber, £168; seen by appointment. Madge M. Allen, 363 Croydon Rd., Caterham Valley, Surrey. Trade 184-e404
- BABY PEUGEOT**, the most economical light car, 45 miles per gallon, light on tyres; we can deliver from stock the standard model, fitted with sporting 2-seater body, lamps, horn, tools, etc., £170. For careful attention and early delivery, buy direct from the Sole Midland Agents, the Premier Motor Co., Aston Rd., Birmingham. Trade 183-53
- BABY PEUGEOT** de luxe model, in stock. Alfred Washnag, 65 Gt. Portland St., W. Mayfair 3005. Trade 183-49
- BABY PEUGEOT**, new December, 1915, Stepney tyre, unused, car only used three months, model de luxe, complete, £135, cash. Hawker, Hamworthy, Poole. 183-a112
- BABY PEUGEOT**, 1916, sporting model, painted brown, only few weeks old, and as good as new, £135. P. J. Evans, John Bright St., Birmingham. Trade 183-94
- BABY PEUGEOT** handsome runabout, 4-cylinder engine, fully equipped, 80 guineas. Wauchope's, 9 Shoe Lane, London. Trade 183-63
- BABY PEUGEOT** de luxe, 4-cylinder engine, 90 guineas, fully equipped. Wauchope's, 9 Shoe Lane, London. Trade 183-70
- BEDELIA** cyclecar, 4-wheeler, ready for the road, £22 10s. Wauchope's, 9 Shoe Lane, London. Trade 183-69
- BEDELIA**, 8hp, racing cyclecar, sociable, engine recently overhauled, torpedo body, painted blue, hood, adjustable screen, speedometer, electric lamps and horn, also mechanical fittings in polished brass, tyres nearly new, a real bargain for £60, photo. 293 Portland Rd., S. Norwood. Trade 183-a180
- BUCKINGHAM**, late 1914, special racing engine, Stewart speedometer, hood, screen, two headlights, electric tail lamp, many spares, very fast, sacrifice £85. C. Jones, Air Station, East Fortune, N.B. 183-c318
- BUGATTI.** We have for disposal one of these super light cars, fitted with an extremely sporting "submarine"-type of body. This car is now undergoing a complete overhaul and is scheduled to be ready in about 10 days; we shall be pleased to show it to intending purchasers in its dismantled condition. It is capable of over 60 m.p.h., does approximately 32 to the gallon, and comes within the usual £3 3s. tax. The body provides a large amount of accommodation, the driving seat is adjustable for reach, speedometer, clock, drawers, cupboards, Klaxon and Boa horn, etc., are included in the equipment. It is a unique car, suitable for anyone who requires a fast machine of ultra sporting appearance, and carrying a guarantee of perfect mechanical condition. G. N. Higgs, 31 Vauxhall Bridge Rd., Victoria, S.W. Trade 183-59
- CALCOTT** cars. Watkins and Doncaster, Ltd., The Hall, 95 Great Portland St., authorized retail and sole wholesale agents for London and the Home Counties. Telephone, 6565-6 Mayfair. Trade zzz-345
- CALCOTT** latest 1915 model, very little used, paintwork and mechanical condition practically as new, speedometer, clock, exhaust cut-out, cocoa floor mat, electric and bulb horns, dynamo lighting, hood, screen, etc.; one of the best Calcotts turned out; first cheque £235. Castle Motor Co., Kidderminster. Trade zzz-832
- CALCOTT**, 1915, July, dynamo lighting, in excellent condition, mileage under 2000, price £225. Box No. 8171, c/o "The Light Car and Cyclecar." 183-c336
- CALCOTT**, 1914, recently overhauled by makers and averaging 44 m.p.g., in daily use, complete with all accessories, including hood, screen, spare wheel, electric side and tail lamps, acetylene headlamps, mechanical and bulb horns, exhaust whistle and mirror, nearly new tyres, exceptionally fine hill-climber; can be seen and tried any day by appointment. £190. Lieut. Cooper, 12 Wolverhampton Rd., Stafford. 183-a142
- CALCOTT**, late 1915, dynamo lighting set, dickey seat, 2 spare wheels, petrol can, special carrier, side mat, whistle, etc., etc., as new, seen by appointment, £225, no offers. W. E. Harrison, Regent Ter., Sheffield. 183-a137
- CALCOTT**, 1913, 10hp, 2-seater, hood, screen, dynamo lighting, detachable wheels, etc., £295. Howard Stephens, Berkeley Ave., Park St., Bristol. Trade 184-473
- CALCOTT**, 1915, 10hp, 2-seater, 5 detachable disc wheels, all tyres new, speedometer, horn, hood, screen, dynamo lighting set, £250. See Below.
- CALCOTT**, 1914, 10hp, 2-seater, hood, screen, dynamo lighting set, 5 detachable wheels, oversize tyres, all good, Colonial radiator, £220. See below.
- CALCOTT**, 1914, 10hp, 2-seater, hood, screen, 5 lamps, 5 detachable wheels, etc., £200. Howard Stephens, Berkeley Ave., Park St., Bristol. Trade 184-74
- CALCOTT**, 1916, dynamo lighting set, for immediate delivery. Price and particulars from The City Garage, Coventry. Trade 183-a131
- CALCOTT**, 1914, 5 lamps, speedometer, dickey, car carrier, etc., engine just overhauled, £185. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 183-90

*One of many similar letters:—*

15th September, 1915.

Dear Sir,—I have to inform you the 2-seater Morris-Oxford I advertised is sold. I am surprised that my advertisement in your excellent paper was instrumental in obtaining so quick a sale. There was absolutely no need for the second insertion, so please do not put in the advertisement in further issues. With many thanks.

J. P. C.

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

**CALCOTT**, 1916, March, 2-seater, run 350 miles, dynamo lighting, dickey, usual accessories, indistinguishable from new, £260. Below.

**CALCOTT**, 1914, 2-seater, electric side lamps, speedometer, clock, shock absorbers, repainted and thoroughly overhauled, £185. Smith and Hunter, 15 Little Portland St., Oxford Circus. Trade 183-87

**CALCOTT**, special car, complete with electric side and rear lamps, acetylene headlamps, separate generator, specially upholstered, speedometer, clock, mats, hood cover, rich brown, £210. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-101

**CALCOTT**, late 1914, wide 2-seated torpedo, hood, screen, electric side and tail lamps, acetylene headlamps, generator, speedometer, dickey seat, 5 Sankey detachable wheels, fully equipped, perfect condition, bargain, £195. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-140

**CALCOTT**, 1915, 2-seater, dickey, dynamo lighting, in excellent order. Storey's, 118 Gt. Portland St., W. Trade 183-127

**CALCOTT**, late 1915, 10hp, 2-seater, with special dickey seat, hood, wind-screen, 5 detachable wheels and tyres, 12-volt dynamo lighting set, 2 horns and all accessories, price £225. R. Bamber and Co., Ltd., 33 Liverpool Rd., Southport. Trade 185-117

**CALCOTT** cars. Appointed agents. Special list, with particulars. English light car specialists, Robinson's Garage, Green St., Cambridge. Telephone 388. Telegrams, "Cars." Trade 183-156

**CALTHORPE**, late 1914, 10hp, 4-cylinder engine, 2-seater, 3 speeds and reverse, tyres as new, fully equipped, electric lamp, spare wheel and tyre, £140; property of a City gentleman, left with Wauchopes, 9 Shoe Lane, London, E.C., where machine can be seen and tried. Trade 183-71

**CALTHORPE**, 4-seat, hood, screen, horn, 2 acetylene headlamps, 5 detachable wheels with tyres, cream, £190. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-66

**CALTHORPE**, P. J. Evans, John Bright St., Birmingham. Immediate and prompt delivery 4-seater, coupe, Grand Duke Michael and sporting models. Trade 183-55

**CALTHORPE**, 10hp, 1915, special wide 2-seater, dynamo lighting set, spare wheel, speedometer, electric horn, exhaust whistle, hood, screen, etc., in new condition, perfect, trial, been driven by a lady, bargain, 195 guineas. 441 Brighton Rd., Croydon. Trade 183-177

**CALTHORPE** Minor. Officer's sporting 2-seater, round back, indistinguishable from new, 2840 miles, speedometer, clock, many extras, besides hood, screen, etc., electric lighting, new tyres, sacrifice £145, no offers. Hinfesham, The Leas, Westcliff. Trade 183-114

**CALTHORPE**, 1916, 10hp, special sporting model, bulbous back, disc wheels, guaranteed speed of 60, only used for a few miles, condition as new, £215. Elce and Co., 15-16 Bishopsgate Ave., Camomile St., E.C. Phone, Avenue 5548. Trade 183-110

**CALTHORPE**, 10hp, 2-seat, acetylene headlamps, electric side and tail, horn, clock, dickey seat, 5 wheels and tyres, grey, £135. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-93

**CALTHORPE**, 10hp, late 1915, 4-seated torpedo, painted grey, one-man hood, side curtains, screen, 5 Sankey detachable wheels, electric side and tail lamps, acetylene headlamps, generator, good tyres, perfect mechanical condition, car only done 3000 miles, genuine bargain, £225. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-141

**CALTHORPE** Isle of Man racer, dynamo lighting, in good order. Storey's.

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

**CALTHORPE** coupe, 1915, dickey, dynamo lighting, in good order. Storey's.

**CALTHORPE** 4-seater, 1915, completely equipped, in excellent order. Storey's, 118 Gt. Portland St., W. Trade 183-123

**CALTHORPE** 1916 new G.D.M., dynamo lighting, in stock. Storey's.

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

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

**CALTHORPE** new 1916 sporting chassis, fitted with our special design 3-seated body, concealed hood, dynamo lighting, in stock. Storey's, 118 Gt. Portland St., W. Trade 183-121

**CALTHORPE**, 1916, 10hp Minor cars, illustrated list with particulars and prices on application; military orders particularly solicited, special precedence in delivery. English light car specialists, Robinson's Garage, Green St., Cambridge. Telephone, 388. Telegrams, "Cars." Trade 183-157

**CARDENS**, 2 1914 models, 4-5hp J.A.P. engines, one finished in white and black and the other in red, £65 and £62 respectively. Maudes', 100 Gt. Portland St., London, W. Trade 183-41

**CHARRONETTE**, 2-seater Charronette, sports 2-seater, £250 and £270 respectively, with C.A.V. lighting set. 65 Piccadilly, W. Trade 187-708

**CHATER LEA**, 1914, 2-seater, 8hp, 1916, worm drive, £95. Taylor, 6a Eder Hall St., W.C. Trade 183-163

**DEEMSTER**, September, 1914, 4-cylinder, 2-seater, green 40 m.p.g., £120. Graham, 104 Victoria St. Trade 184-430

**D'ULTRAS** for immediate delivery, 3 just released, standard 2-seaters, disc wheels, underslung, 8 h.p., 50 m.p.g., new tax, £6 6s., by appointment at our London warehouse, £115. Charlotte Place, North St., Clapham, S.W. Trade inquiries. Exchanges entertained. Trade 183-c399

**DUO** sporting 2-seater, 8hp J.A.P., disc wheels, electric outfit, hood, screen, speedometer, spares, £57 10s.; exchange powerful sporting combination. 135 De Beauvoir Rd., N. Trade 183-100

**ELBURN**, 2-seat, 6-8hp, friction drive, single-cylinder, high side doors, hood, screen, Zenith carburettor, Bosch magneto, enamelled grey, upholstered blue leather, in good condition, £35. H. F. Wilkinson, Red Cottage, Adlestropes. Trade 183-123

**ENFIELD**, 1915, 2-seater, 10hp, 4-cylinder, 5 detachable wheels, dynamo lighting set, speedometer, clock, electric horn, and other extras, just repainted grey, and guaranteed in thoroughly good running order, £185; exchange or deferred terms considered. Service Co., 292 High Holborn, W.C. Trade zzz-609

**ENFIELD**, 10hp, new, dynamo lit, fresh from works, unusual opportunity, £215. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-104

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

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

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

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

**ENFIELD**, October, 1915, 2-seater, 10hp, 4-cylinder, 5 detachable wheels, dynamo lighting set, hood, screen, 2 horns, and all accessories, just been overhauled, is in excellent condition throughout, £170. Mrs. Thompson, Maple Grange, Otley, Yorks. Trade 183-126

**ENFIELD**, 1916, 10hp, dynamo lighting, biscuit colour, dickey seat, £215. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-64

**ENFIELD**, 1915, 4-cylinder, two-three-seat, double dickey, hood, screen, repainted green and black, dynamo lighting outfit, 5 lamps, speedometer, clock, 2 horns, 5 wheels, bargain, £175, 3 months guarantee, 12 months insurance free, tuition free, exchanges, deferred terms 5 per cent. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W. Museum 623. Trade 183-144

**GLOBE** cars and vans, new and second-hand, in stock; also all components; overhauls undertaken. Tuke and Bell, Ltd., Globe Car Manufacturers, Carlton Engineering Works, High Rd., Tottenham. Trade 183-120

**G.N.** cyclecar, 8hp J.A.P. engine, 2 speeds, chain-cum-belt transmission, fast, reliable, economical, £60, or near. 211 Garratt Lane, Wandsworth. Trade 183-167

**G.N.**, 1915, 4 speeds, special engine, steel pistons, all in new condition, with many spares, bargain, £69. Write, Mundy, 24 Church Walk, Hampstead, N.W. Trade 183-c35

**G.N.**, 1914, 8hp, 3 speeds, 2-seater, hood, screen, 3 lamps and generator, excellent condition, £80. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W. Museum 623. Trade 183-143

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

**G.W.K.** A Car without a gearbox. Sole agent for Manchester, Gourlay, Fallowfield. Trade 189-c334

**G.W.K.**, with lamps, mechanical horn, etc., excellent condition, £100. Hayes, 344 Euston Rd. Trade 183-96

**G.W.K.**, 8hp, 2-seater, Coventry-Simplex engine, overhauled and repainted, would take combination lightweight or Morgan part, offers. 7 Hercroft St., Slough. Trade 183-135

**G.W.K.**, delivered end December, 1915, only been run 500 miles, absolutely new condition, 5 lamps, 5 detachable wheels, £165. Eckford, 53 Kingston Hill, Surrey. Phone, 1157 Kingston. Trade 183-133

**G.W.K.** G.W.K. light car, 1916, latest model, just arrived from works, immediate delivery, 5 detachable wheels, 5 lamps, horn, etc. The cheapest car to run. Make sure of this now. Wilkins, Simpson and Co., 11 Hammersmith Rd., London. Trade 183-c907

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

**G.W.K.**, 1914, 9hp model, complete to usual catalogue specification, excellent order and condition, £125. Maudes', 100 Great Portland Street, London, W. Trade 183-44

**G.W.K.**, 1913, 8hp, 2-seater, just repainted grey and black, just overhauled, hood, screen, 3 lamps, horn, £105, 3 months guarantee, 12 months fire insurance, tuition free, exchanges and deferred terms 5 per cent. Cass's Motor Mart, only address 5 Warren St., Euston Rd., W. Museum 623. Trade 183-146

**G.W.K.**, 1914, sporting body, 5 lamps, spare rim and tyre, oversize tyres, just repainted, fast, in fine condition, £120. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 183-93

**HILLMAN**, 1914, 9hp, with all standard fittings, complete, perfect running order, £175 or near offer. Ashton and Kilner, Poole. Trade 183-111

**HILLMAN**, dickey, speedometer, exhaust whistle, etc., done 5000 miles, splendid condition, £175. Johnson, Snowdon Rd. Bournemouth. Trade 183-129

**HILLMAN**, 1915, 2-seater, dynamo lighting set, splendid order, £125. Hayes, 344 Euston Rd. Museum 354. Trade 183-97

**HORSTMANN**, 10hp, in first-class condition, good as new, £150. Colmore Depot, 45 John Bright St., Birmingham. Trade 183-67

**HORSTMANN**. The best light car irrespective of price, luxurious economy combined with efficiency. Edwards and Parry, the special London agents, can give delivery from stock; every car specially tuned and tested by our Brooklands racing expert, increased power and more miles per gallon for no extra cost; trial runs by appointment. Write for illustrated catalogues, or call at 69 Great Queen St., Kingsway. Regent 5086. Trade zzz-359

**HORSTMANN** de Luxe, 1915, just thoroughly overhauled, cost £175 last July, £147. Harris, Jordan Well Chambers, Coventry. Trade 183-113

**HORSTMANN** light car, 1915, 2-seater, seat starter, 5 detachable wheels, 5 lamps, in tip-top condition, absolute bargain at £125. Stanger, Motcr Works, Spalding. Trade 184-103

**HORSTMANN**, 1915, excellent condition, seat starter, speedometer, 5 detachable wheels, very fast, £135. Welton, 60 Smithford St., Coventry. Trade 183-150

**HUMBERETTE**, really attractive car, very little used, only driven by owner, practically new externally and internally, now garaged at la Lancaster Gate, cost £130, will take £80, seen any time if unsold. Thomas, 31 Hor Exchange, London. Trade 183-c87

**HUMBERETTE**, 1914, water-cooled, complete with hood, screen, speedometer, Lucas headlamp, side lamps, electric tail lamp, two generators, horn, special luggage carrier, Stepany wheel, fitted mats; this car is in perfect condition, and has only been driven by owner for short trips; sacrifice £110 or near offer. Hurst, Little Aston, Sutton Coldfield. Trade 183-115

**HUMBERETTE**, 1913, in good condition, spare tyres, £65, or near offer. Miss Pucker, London Rd., Newbury. Trade 183-134

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

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

**HUMBERETTE**, late 1913, air-cooled model, with standard equipment, recently overhauled and in good mechanical condition, £55 as she stands, £8 extra for repainting and recovering hood. G. N. Higgs, 31 Vauxhall Bridge Rd., Victoria, S.W. Trade 183-60

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

**HUMBERETTE**, 1914, electric lights, lately overhauled and repainted by makers, clock, speedometer, spares, tyres, any trial, £85. Private. 179 Brixton Rd., London, S.W. 183-e439

**HUMBERETTE**, late 1914, water-cooled, 2-seated torpedo, painted buff, hood, screen, acetylene lamps, generator, wire wheels, Stepany wheel, fully equipped and in perfect condition, bargain, £105. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-138

**HUMBERETTES**. The largest stock in England of these popular cyclecars, all models, all prices from £50; one brand new. Percy and Co., 337 Euston Rd., London. Trade 183-132

**HUMBERETTE**, 1915, 8hp, 2-cylinder, 2-seater, completely equipped, in excellent order, £120. Storey's, 118 Gt. Portland St., W. Trade 183-122

**HUMBERETTE**, 1913-14, 3 speeds, reverse, nice condition, £60, exchange 1916 combination, cash adjustment. 113 High St., Plumstead. 183-a174

**HUMBERETTE**, 1913-14, air-cooled, in splendid condition, just thoroughly overhauled, repainted a smart grey, many useful improvements, hood, screen, lamps, three speeds, reverse, smart, economical, reliable little car, £70. Frain, Snainton, Yorks. 183-a159

**HUMBERETTE**, 1913, with Stepany, 5 good tyres, DA cylinder, large headlight, oil side lights, horn, whistle, mat, good running order, only wants painting to make really smart car, owner-driven since new, £50. J. S. Blyth, Ardeigh, Colchester. 183-a157

**HUMBERETTE**, 1914, air-cooled, recent overhaul, perfect condition, Stepany, tyres very good, £68, or combination part payment, real bargain, 146 Wheelwright Rd., Erdington, Birmingham. 183-a158

**HUMBERETTE**, late 1913, a.c., little used, four new tyres, 2 Palmer cords, many spares and accessories, splendid condition, fast and reliable, expert examination invited, sacrifice at £55. U.S., 66 Rugby Rd., Brighton. 183-a148

**HUMBERETTES**, 1914, air-cooled, £70; 1914, water-cooled, £103; 1913, air-cooled, £65. Phone or call, Hayes, 108 and 344 Euston Rd. Museum 3541. Trade 183-95

**LAGONDA** 1915 coupe, £135; a 1915 small attractive 4-seater, £145. Percy and Co., 337 Euston Rd., London. Trade 183-134

**LAGONDA** coupe, 1914, not done 500 miles, 5 detachable wheels, 5 lamps, etc., condition almost as new, price £120. G. Harwood, Eastleigh, Ripley Rd., West Worthing. 183-a170

**L.M.** on sale, 1913 8hp, Renault chain drive, 2-speed, windscreen, hood, 5 lamps, speedometer, Miller, Chorley Rd., Adlington, Lancs. Trade 183-a228

**MARLBOROUGH** 10hp sporting 2-seater, 5 detachable rims and tyres, dynamo lighting, in excellent order, £175. Storey's, 118 Gt. Portland St., W. Trade 183-123

**MARLBOROUGH** engine, 10hp, 4-cylinder, water-cooled, 2-seater, late model, wire wheels, painted mauve, new condition, £110. Beardshaw, Auctioneer, Wood Green. Trade 183-a273

**MATHIS**, 1914, 8hp, sporting model, bucket seat, disc wheels, new tyres all round, just been repainted and overhauled, £140. Maude's, 100 Great Portland St., London, W. Trade 183-42

**MORGANS**. We are contracting agents. Book for early delivery. Repairs and overhauls guaranteed. Burrell's, 2 Albany Rd., Cardiff. Trade 187-c176

**MORGAN**, 8hp J.A.P., air-cooled special Grand Prix type body, with bulbous back, excellent condition, £56. Crow Bros., Guildford. Trade 183-e145

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

**MORGAN**, 1915, Grand Prix model, blue, hood, windscreen, 700 by 80 tyres, disc wheels, acetylene headlights, with D.A. outfit, oil side and tail, all accessories, little used, £110. R. Bamber and Co., Ltd., 33 Liverpool Rd., Southampton. Trade 184-975

**MORGAN**, 8hp J.A.P., special sporting body, with bulbous back, excellent condition, any trial here, £56. Crow Bros., Guildford. Trade 184-a143

**MORGAN**, 1916, sporting model, just delivered from works, specially upholstered and fitted extra heavy tyres, hood and screen, lamps, and Stewart horn, etc., £112, motorcycle exchanges entertained. Woodgate, 543 Coventry Rd., Birmingham. Trade 183-a139

**MORGAN**, 1915, w.c., G.P., absolutely new condition, hood, screen, 5 lamps, disc wheels, large generator, hand Klaxon, painted red, bargain, £115, owner called to the Colours. 18 South Bruton Mews, Bond St. 183-a138

**MORGAN**, 1916, sporting model, with latest improvements, M.A.G. engine, hood, screen, all lamps, etc., only done 500 miles, in perfect order, as new, £105. Exeter Motor Cycle and Light Car Co., Ltd., 7 Bath Rd., Exeter, Sole Devon Agents. Trade 183-76

**MORGAN**, 1915, Grand Prix, in good running condition, usual accessories, condition as new, £100. Uxbridge Motor Co., Ltd., 101 High St., Uxbridge. Trade 183-155

**MORGAN**, 1914, G.P., water-cooled, hood, screen, 5 lamps, speedometer, enamelled Royal blue, £95. Loke, Winchester. Trade 183-a130

**MORGAN**, sporting model, J.A.P., hood, screen, electric lighting, 5 lamps, new Palmer cord oversize back, spare chains, extra toolbox, splendid running order, looks like new, just spent £15 on overhaul, £70 lowest. Aggio, The Furze, Foggy Furze, West Hartlepool. 183-121

**MORGAN**, sporting, late 1915, about 1000 miles, fast 8hp J.A.P., Harcourt radiators, extra air, speedometer, screen, hood and cover, Klaxon, extra box, spring seat and back, Stepany road grip back, complete with lamps, spares, etc., condition perfect, equal new, £95. Dimond, 50 St. Leonard's Rd., Exeter. 183-a110

**MORGANS** in stock, de luxe with M.A.G. engine, and all on, £127; Sporting with J.A.P. engine and all on £114. Exchanges entertained. Farrar, Hopwood Lane, Halifax. Trade 184-a108

**MORGAN**, 1914, G.P., No. 1, with J.A.P. engine, side valves, Binks carburetter, complete with hood, screen, Lucas dynamo lighting set, etc., as new throughout and finished in white and black, £130. Maude's, 100 Gt. Portland St., London, W. Trade 183-45

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

**MORGAN**, late 1914, No. 1 Grand Prix, splendidly equipped, hood, screen, electric and acetylene side and tail lamps, big Lucas headlamps, disc wheels, heavy Dunlops, speedometer, clock, electric light on dash, mechanical horn, all tools, spares, everything in absolutely topping condition, fast and economical, £98 quick sale. Dawkins, Stockfield Hall, Acocks Green, Birmingham. 183-a104

**MORGAN**, 1915, G.P., No. 1 model, J.A.P. engine, Binks carburetter, 700 by 80 tyres, luxuriously upholstered and complete with usual accessories, £125. Maude's, 100 Gt. Portland St., London, W. Trade 183-46

**MORGAN**, sporting, finished crimson lake, splendid order, £85. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-65

**MORGAN**, sporting, complete hood, screen, speedometer, lamps, repainted rich lake colour, good as new, £85. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-68

**MORGAN** 1916 models. We are official contracting agents, and can give best delivery of any model; spare parts in stock. Elce and Co., 15-16 Bishopsgate Ave., Canonville St., E.C. Phone, Avenue 5548. Trade 183-111

**MORGAN**, G.P., 1915, No. 1 model, with 1916 improvements, won gold medal in Birmingham Easter trial, painted red, 5 Lucas lamps and generator, speedometer, screen, horn, 700 by 80 tyres all round, £120, 3 months guarantee, 12 months insurance free, tuition free, exchanges and deferred terms 5 per cent. Below.

**MORGAN**, G.P., 1915, No. 1 model, painted blue, screen, disc wheels, 5 lamps, speedometer, mechanical horn, bargain, £112 10s. Cass's Motor Maz, only address 5 Warren St., Euston Rd., W. Museum 623. Trade 183-147

**MORGAN**, Grand Prix, late 1914, w.c. J.A.P., repainted carmine, splendid condition, heavy Kempshall on back, complete with hood, screen, lamp and horn, £85, any trial here. A. Baker, Beaworthy, Devon. 183-a176

**MORGAN** de luxe, 1914, repainted, overhauled, very smart, 1915 improvements, good order, tyres like new, hood, screen, lamps, price £70. Apply 630-8, 5 Clovelly Gardens, Upper Tulse Hill, Brixton Hill. 183-a175

**MORGAN**, 1916, special G.P., M.A.G. engine, 10hp, water-cooled, 5 electric and acetylene lamps, hood, screen, clock, speedometer, guaranteed perfect, as new, delivered 18th February, run 700 miles only, cost £145, lowest price £120. Full particulars, 16 Cambridge Road, King's Heath. 183-a173

**MORGAN**, 1913, standard model, hood, screen, electric lamps, speedometer, excellent condition bargain. Philpott, Riverdale Lodge, Dorking. 183-a160

**MORGAN** de luxe, 1914, recently overhauled, repainted red, disc wheels, hood (new), windscreen, speedometer, 8-day clock, Stewart warning signal, barb horn, four lamps, low generator (head, dash and tail lamps, electric), mat, large toolboxes, spares, including 2 chains, tools, excellent condition, £80. Camebus, Ormsby, Lower Park, Loughton. 183-a158

**MORGAN**, air-cooled, M.A.G. engine, 1915 sporting model, screen, upholstered back, perfect condition, cost £110, bargain, £80, no offers. 753 Chester Rd., Birmingham. 183-a148

**MORGAN**, 8hp J.A.P., 1914½, new tyres and tubes and chains, climb anywhere, must sell, having to join the Army, with 3 lamps, hood, and screen, complete, £82 10s. A. W. Friend, High St., Torrington. 183-a147

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

**MORGANS**, Grand Prix, latest model, in stock, smart, fast, economical. If you want one, write Potter, Morgan Specialist, Leicester Grove, Leeds. Trade 183-154

**MORGANS**. Potter, Morgan Specialist, Leicester Grove, Leeds, invites your inquiry for any model, spare parts stocked, Stepany Road-Grip tyres, prompt attention and dispatch, price right. Trade 183-a154

**MORRIS-OXFORD**, 10hp, late design, special Colonial model, extra long body and wheelbase, French grey, very fast and powerful, complete with hood, screen, spare wheel, lamps, horns, speedometer, clock, and tools; it has 2 new covers and tubes; trial run arranged; property of an officer, £190. Grandex, 86 Gray's Inn Rd., W.C. Trade 183-83

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

**MORRIS-OXFORD**, 1914, 5 Sankey wheels, domed wings, speedometer, electric horn, extra air inlet, 5 lamps (2 powerful self-contained acetylene), accessories, engine particularly sweet and economical, all tyres, splendid, £160. Apply, 1 Bunhill Row, E.C. 183-a399

**MORRIS-OXFORD**, quick deliveries, free tuition, etc., wholesale and retail agents for Surrey and parts of Sussex and Hants, The Haslemere Motor Co., Ltd., Haslemere. Phone, 43. Trade zzz-261

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

**MORRIS-OXFORD**, 1915, model de luxe, dickey seat, shock absorbers, dissolved acetylene lighting system, speedometer, air, gas, and magneto controls, valances, etc., only done 6000 miles, £155. Roper and Wreaks, 112 Arundel St., Sheffield. Trade zzz-924

**MORRIS-OXFORD**, 10hp, late 1913 model, 2-seater, complete with hood and screen, dynamo lighting outfit with 5 lamps, 5 detachable wheels and tyres, complete and in fine order, £135. The Light Car Co., 333 Euston Rd., London. Phone, Museum 3143. Trade 183-149

**MORRIS-OXFORD** de luxe, 10hp, late 1914, painted green, black wings, 5 lamps, 5 Sankey detachable wheels, speedometer, petrol can carrier, dickey seat, good tyres, mechanically perfect, fully equipped, bargain, £185. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-137

**MORRIS-OXFORD**, 1913, 5090, complete, in excellent condition, overhauled, repainted, £132. Longney, 21 Bridge St., Newport, Mon. 183-a152

**MORRIS-OXFORD** de luxe, 1914, 5 lamps, speedometer, spare wheel, Palmer cord tyres, car just repainted and overhauled, many extras, £170. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 183-92

**MOTORETTE**, 6hp, water-cooled, 3-wheeler, 3 new tyres, lamps, hood, screen, speedometer, etc., £25. West, 383 King's Rd., Chelsea. 183-a101

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

**PERRYS** in stock, latest 1916 8hp models, 3 speeds, complete, hood, screen, lamps, horn, 5 detachable wheels and tyres, £2 2s. tax and 40 m.p.g. P. J. Evans, John Bright St., Birmingham. Trade 183-53

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

**PERRY**, 2-cylinder, not done 4000, also shed, 18 by 9, £140, any examination. 17 Spotland Rd., Rochdale. 183-e3

**PERRY**, 7-9, 2-cylinder, 1914 model, pressure-fed petrol, 2-seater body, complete with hood and screen, 5 detachable wheels and tyres, 3 lamps, horn and tools, painted green and in good order throughout, £110. The Light Car Co., 331 Euston Rd., London. 'Phone, 3143. Trade 183-151

**PERRY**, 1913, in nice condition, £100.

**PERRY**, 1914, in really nice condition, £115. Percy and Co., 337 Euston Rd., London. Trade 183-123

**PERRYS**, 1916, 8hp models, 2-4-seaters and coupes, earliest deliveries, exchanges entertained. R. Bamber and Co., Ltd., 33 Liverpool Rd., Southport. Trade 188-116

**PEUGEOT**, Baby, latest 1916 models in stock for immediate delivery, 4-cylinder water-cooled engine, "sporting" 2-seater body, 3 speeds and reverse, £170. The Premier Motor Co., Aston Rd., Birmingham. Trade 183-57

**PREMIER**, 7-9, 2-seater light car, hood, screen, lamps and horn, good climber, £87 10s., or exchange. Motor Exchange, 68 Horton St., Halifax. Trade 184-944

**RALEIGH**, 11hp, new, dynamo lit, fresh from works, unusual opportunity, 209 guineas. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-103

**RILEY** light car, 2-seater, with electric lamps, only used 50 miles, bargain, £105, any trial. Timberlake's Garage, Wigan. Trade 186-78

**RITZ**, perfectly new, latest type car, just arrived, with all fittings, complete, bargain, £125. Timberlake's Garage, Wigan. Trade 186-79

**RITZ**, 10hp, 4-cylinder, 2-seater, £145, all on; best value obtainable, liberal exchanges. Motorics, 68 Horton St., Halifax. Trade 184-945

**ROBERTSON** 7-9 cyclecar, new 1915, maker's certificate, 2-seater, cost 100 guineas, take 50, mileage 900, scarcely soiled. 10 Norwood Crescent, Southport. Trade 183-e410

**ROLLO**, 8hp J.A.P. engine, variable gear, chain-cum-belt drive, seats 2 (side by side), tyre good, all accessories, £29 10s. Collier, Deal St., Halifax. Trade 184-942

**SAXON**, prompt delivery, 1916 models. Obtainable from the Pioneer Agents, Western Motor Works, Chislehurst, Kent. 'Phone, Sidcup 160. Trade 192-e89

**SAXON**, 11.9, brand new 1916 model, slightly shop-soiled, overstocked, accept £140. Roper and Wreaks, 112 Arundel Street, Sheffield. Trade zzz-925

**SAXON** cars. Although the tax is doubled, the Saxon tax is now only £6 6s. Petrol 40 m.p.g. Plenty of latest 1916 models for instant delivery. All spare parts stocked. We usually have demonstration Saxons of latest type at bargain prices. Lowe and Wood, Ltd., 280 Broad St., Birmingham. Trade 191-d197

**SAXON**, 1915, fine condition, 11hp, with speedometer, hood, lamps, spares, Stepney wheel, just fitted, new tyres and tube, also £6 insurance policy, 10 months unexpired, property officer going abroad, bargain, quick sale, £125. Write, "Saxon," c/o 25 Forman St., Nottingham. 183-a151

**SAXON**, 1916 model, fully equipped, done 500, £140, including insurance, etc., or offer. 339 Essex Rd., N. 183-a145

**SAXON**, for sale, 1915 model, done little running, painted khaki, £105. Poate, Midhurst. Trade 183-a102

**SAXON** new 1916 model in stock, painted cream and black, complete with magneto, £150. Tuke and Bell, Ltd., Motor Department, Carlton Engineering Works, High Rd., Tottenham, N. Trade 183-119

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

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

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

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

**SINGER**, 1914, dynamo lighting, speedometer, fully equipped, just repainted, £175. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 183-89

**SINGER**, 1915-16, 2-seater, dynamo, dickey, speedometer, clock, mileage 1500, paintwork, tyres and mechanism faultless, £240. Below.

**SINGER**, 1914, 2-seater, dynamo lighting, speedometer, spare wheel, just overhauled, £180. Smith and Hunter, 15 Little Portland St., Oxford Circus. Trade 183-85

**SINGER**, 1916, 10hp, 2-seater, dynamo lighting, in stock. Palmer, 209 Gt. Portland St., W. 'Phone, Mayfair 492. Trade 195-82

**SINGER** light car, 1914 model, in perfect order, complete with all accessories, open to any trial, £160. Exeter Motor Cycle and Light Car Co., Ltd., 7 Bath Rd., Exeter. Sole Devon Agents. Trade 183-77

**SINGER**, 10hp, 2-seater, dynamo lighting, in stock. Alfred Wastnag, 65 Gt. Portland St., W. Mayfair 3005. Trade 183-50

**SINGER**, 1915, 10hp, special speed model, detachable wheels and spare, plated fittings, recently repainted and upholstered, and thoroughly overhauled, £235. Maude's, 100 Gt. Portland St., London, W. Trade 183-47

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

**SINGER**, 10hp, new June, 1915, speedometer, dickey seat, electric lighting set, like new, £210. Apply, 3 Boulah Mount, Woodhouse, Leeds. 183-a109

**SINGER**, 1913, fitted with 1915 back axle, 10hp, dickey seat, speedometer, electric horn, tyres and paintwork in splendid condition, mechanically perfect, owner driven, a real bargain, £135. Eit, Radnor Villa, Bransford Rd., Worcester. 183-a98

**SINGER**, 1914, 10hp model, complete with Rotax dynamo lighting set, 3 speeds and reverse, 5 detachable wheels, hood, screen, speedometer, etc., £185. Maude's, 100 Gt. Portland St., London, W. Trade 183-43

**SINGER** latest type new light car, in stock, for immediate delivery, £250. Timberlake's Garage, Wigan. Trade 183-80

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

**SINGER**, 10hp, late 1914, 2-seater torpedo, painted buff, black wings, dynamo lighting set, 5 Sankey detachable wheels, speedometer, fully equipped, perfect condition, bargain, £127 10s. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-142

**SINGER**, 1916, 10hp, brand new, actually in stock, immediate delivery.

**SINGER**, 1915, 10hp, indistinguishable from new, £220.

**SINGER**, 1914, as new, exceptionally attractive, £185

**SINGER**, 1913, in real nice order, £125. Percy and Co., 337 Euston Road, London. Trade 183-131

**SINGER**, 1916, 2-seater, as new, dynamo lighting. Storey's, 118 Gt. Portland St., W. Trade 183-125

**SINGER**, 1915, 10hp, 2-seater and dickey, hood, windscreen, 5 detachable wheels, dynamo lighting set, Klaxon and bulb horn, speedometer and all accessories, little used, excellent condition throughout, price £225. R. Bamber and Co., Ltd., 33 Liverpool Rd., Southport. Trade 185-119

**SINGER** 1916 10hp cars, largely used by the Government; list with prices on application; military orders particularly solicited, special precedence in delivery. English Light Car Specialists, Robinson's Garage, Green St., Cambridge. Telephone, 388. Telegrams, "Cars." Trade 183-158

**SINGER**, 10hp, new, dynamo lit, fresh from works, unusual opportunity, £250. Colmore Depot, 49 John Bright St., Birmingham. Trade 183-102

**SINGER**, 1915, 10hp, dynamo lighting, speedometer, extra air valve, petrol gauge, electric and bulb horn, car like new, £220. G. L. Francis and Co., 22 Pantou St., Leicester Sq. Trade 183-107

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

**STANDARD**, 1914 model, dickey seat, speedometer and full equipment, guaranteed £180. Service Co., 292 High Holborn, London. Trade zzz-977

**STANDARD**, 1915, 2-seater, dickey, 5 lamps, etc., fine condition throughout, £200. Stretton and Smith, 23 Woodstock St., Bond St., W. Trade 183-89

**STANDARD**, 1914, 2-seater, dynamo set, speedometer, clock, dickey, practically new tyres, repainted grey and overhauled, £195. Smith and Hunter, 15 Little Portland St., Oxford Circus. Trade 183-86

**STANDARD**, 9.5hp, late 1914, wide 2-seater body, painted grey, chocolate line, 5 lamps, generator, 5 Sankey detachable wheels, good tyres, speedometer, dickey seat, special dash and screen, tools, etc., splendid condition throughout, bargain, £185. Mebes, Light Car Specialists, 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-139

**SWIFT** cyclecar, mileage under 7000, speedometer, £100. Box No. 8215, c/o "The Light Car and Cyclecar." 183-ai/8

#### NOTICE.

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

**SWIFT** cyclecar, 7-9, late 1913, in exceptionally good order, fitted with Lucas special generator and lamps, any trial, £98. William Tatman, Midland Rd., Wellingborough. 183-a141

**SWIFT**, 1913, 7-9hp, good condition, nearly new tyres, 2 spare tyres, electric lamps, speedometer, very fast car, must sell, a real bargain, £62. 12 St. John's Rd., Hampton Wick, Middlesex. 183-a128

**SWIFT** cyclecar, 1913, good as ever, Klaxon, extra air, shock absorbers, side boards, valances, brass lamps and generator, clock, etc., £87½. Ewens, St. Thomas St., Weymouth. 183-a123

**SWIFT**, late 1915, 10hp, 2-seater, grey, fully equipped, dynamo lighting, speedometer, many extras, little used, practically new, £229, carefully privately owned from new by Frank Hall, Stoke Golding, Nuneaton. 183-a113

**SWIFT** light cars, all models in stock, all prices, £65 to £225. Percy and Co., 337 Euston Rd., London. Trade 183-123

**SWIFT**, 10hp, 2-seater, dynamo lighting, done 1000 miles only. Storey, 118 Gt. Portland St., W. Trade 183-126

**VIOLETTE**, 6hp, water-cooled, friction drive, hood, screen, lamps, Stepney, just overhauled and repainted. £15. Cook, Kings Langley, Herts. Trade 183-109

**WALL** tricar, 1915 model, neat little 2-seater runabout, 6hp twin-cylinder Precision engine, splendid order, economical, bargain, £65. Mortimer, Eastrington, Brough, E. Yorks. 183-a96

**WARNE**, 9hp, late 1913 model, a new car, only used for demonstration purposes, hood and screen, 3 speeds and reverse, Stepney, 5 lamps, dashboard clock, speedometer, £85, a bargain. Maude's, 100 Gt. Portland St., London, W. Trade 183-40

**WHITING-GRANTS** in stock, cash or easy terms. R. E. Jones (Garages), Ltd., Swansea, London, Cardiff. Trade zzz-919

**WILLIAMSON**, the Rolls-Royce of 3-wheelers, 8hp water-cooled Douglas engine and gearbox, £126; or exchange. Motorics, 68 Horton St., Halifax. Trade 184-946

**ZEBRA**, 8hp, 4-cylinder, 1914 model, 2-seater, complete with hood and screen, dynamo lighting outfit with 5 lamps, horn and tools, real good lot, £125. The Light Car Co., 331 Euston Rd., London. 'Phone, Museum 3143. Trade 183-150

#### PARCELCARS.

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

**U.S.A.** tradesman's carrier, 8hp twin, water-cooled, friction drive, speeds reverse, ridden 200 miles, cost £110, will accept any offer, owner having no use, must sell. 69 Hanbury St., Spitalfields, E. 183-a169

PRIVATE OWNER  
AND TRADER

and recognise the value of these pages for the disposal of their goods

**MISCELLANEOUS LIGHT CARS AND CYCLECARS.**

**LONDON'S** light car and cyclecar experts. If you are considering purchase of a light car or cyclecar, call and see us; we guarantee satisfaction; exchanges arranged. Percy and Co., 37 Euston Rd., London. Trade zzz-453

**BRIGHTON.** Perry, Morgan, and other small cars. Turpin's, 22 and 29 Preston Rd. Trade 104-m843

**LIGHT** cars. It is much harder to find time for the things we don't want to do than for those we desire to perform. However, find time to see my stock, the largest in London, it will repay you. Note, I have no enormous Great Portland Street showroom rents to pay, therefore my prices are right, while the choice is greater than any other house in the trade. Light cars. At the time of going to press I have the following light cars in stock:—Morgan de luxe, late 1914, absolutely tip-top car, £82 10s.; Saxon, 1915, in fine running order, worth considering at £105; Crescent, friction drive, newly painted, a really useful little bus, in sound condition, £75; G.W.K.s, 1913; I have two of these, newly-painted, and in very good running order, £85 and £89; Lagonda coupe, late 1915, absolutely fine condition in all parts, a great bargain at £145; Whiting-Grant coupe, electric light, electric starter, in good condition and running order, £160; Swift, 7-9, late 1915, tip-top condition, full of extras, £145; Calthorpe, 1914, condition as new, full of extras, £160; Carden, 1915, as new, cost with extras £115, a bargain, £60, perfect running order; also many other cars always coming in for sale. New cars this week: can guarantee delivery of a brand new Singer, Crouch, Horstmann, and several other new cars. I sell cars on cash, exchange, or deferred payment terms. Re these see my advertisements to officers under deferred payments. I shall be pleased to show my stock in garage (two minutes from office). Write, wire, phone or call, Marian G. Paige, the only Lady Motor Dealer (12 years practical experience), 199 Piccadilly (office opposite the Piccadilly Hotel), Tel. "Womanish, London." Phone, Gerrard 4417. Trade 183-38

6-8 **W-C**, light 4-wheeled cyclecar, 2-seater, complete, wants slight adjusting, £25, seen any time, low, sporty. J. R. Wood, Haigh, Barnsley. 183-a119

**CYCLECAR**, J.A.P. twin, air-cooled, hood, screen, lamps, 2 speeds, £30. Skitrow, 2 Waverley Rd., Bradford. Trade 183-a124

**IF** you are in want of a good light car, you cannot do better than pay a visit to the showrooms of F. Mebes and Sons (Est. 1893), who hold one of the largest stocks in London; cars from £50 to £250. 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-136

**CASS'S MOTOR MART**, at the time of going to press, have the following light cars actually in stock:—Enfield, 1915, D.L.C., £175; A.-C., 1914, £165; Morgan, G.P., 1915-16, £120; Morgan, G.P., 1915, £112 10s.; G.W.K., 1913, £105; G.N., £80. All above cars overhauled, repainted, guaranteed 3 months, 12 months insurance free, tuition free, exchanges, no combinations, deferred terms 5 per cent., trials free. For full particulars of above cars see small ads. If you do not see what you require, call, phone, wire or write, same may have arrived after going to press, as you observe our stock is always changing. If you are in want of a light car, it will pay you to inspect our stock of guaranteed light cars before going elsewhere. You will not regret doing so. Remember, we are always willing to purchase or exchange first-class light cars as per our "Wanted" advertisement, for cash. We will personally call and inspect your car within 150 miles. Above cars can be seen and tried at our only address, 5 Warren St., Euston Rd., W. Museum 623. Trade 183-148

**J.A.P.**, 8hp, sporting 2-seater, hood, screen, wire wheels, excellent hill-climber, new condition throughout, £65. Beardshaw, Auctioneer, Wood Green. Trade 183-a274

**MISCELLANEOUS.**

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

**LIGHT-CAR** manufacturers and dealers requiring cheap but well-made and reliable sets of torpedo electric lamps of British manufacture should communicate with the Essex Accumulator Co., 497, 499 Grove Green Rd., Leytonstone, London. Trade zzz-183

**ALUMINIUM** number plates, best quality, any number, raised letters, very handsome, 9s. 6d. per pair. Freeman, Oakes, Devonshire St., Sheffield. Trade zzz-605

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

**3 NEW** Precision engines, 11.9, w.c., 1 parcel lorry, 10 cwt., several chassis, lamps, accessories, etc. Woodrow, Adswood Grove, Stockport. T'de 183-a122

10-12hp **FAFNIR** engine, twin, £5; 6hp Fafnir engine, 50s.; 4½ De Dion engine, 50s.; 6hp Darracq engine, 50s.; 8hp Rover cylinder and piston, 30s.; front axle for Rover wire wheels, 15s.; parts for 6 and 8hp Rover gears, etc.; 650-65 Stepany, complete, 30s.; 750-55 Stepany, complete, 30s.; 700-90 Stepany, wheel only, 17s. 6d. 455 York Rd., Wandsworth. Trade 183-a118

**2-SPEED** gearbox, with clutch, chain drive throughout, £4 10s.; back wheel 26 by 2½ complete, and with expanding brake, chain drive 50s., 19 ft. 5 in. Renold chain £1; coachbuilt bucket seat, sprung and upholstered, 7s. 6d.; wicker sidecar body, 12s. 6d. Geo Sale, Newcastle St., Burslem. Trade 183-a136

**MORGAN**, for prompt delivery. The Morgan specialists, Exeter Motor Cycle and Light Car Co., Ltd., 7 Bath Rd., Exeter. Sole Devon Agents. Trade 183-75

**TYPEWRITERS.** Remington No. 7, excellent condition, £4, specimen and particulars. 22 Rock St., Finsbury Park, N. Trade 183-a140

**PRESSED-STEEL** frame, 10 ft. 6 ins. by 2 ft. 1 in. wide, fitted with dumb irons, front ends, 32s. Millington, Frame Manufacturers, Walsall. Trade 183-a155

**IT** will always pay you to consult a specialist. We specialize in light cars and cyclecars exclusively, and if we should not have in stock just what you are looking for we can obtain it for you promptly. We charge you for this, of course, but only a nominal amount of 5 per cent. on the price paid, and you are sure of getting what you require at the lowest trade price plus our commission. This is far cheaper than paying what you may be asked to pay elsewhere. Give us a trial. We please ourselves by pleasing you, and your recommendation is worth something to us. The Light Car Co., 331 Euston Rd., London. Phone, Museum 3143. Trade 183-154

**ACCESSORIES.**

**COVER**, 700 by 80, and tube, horn, accumulator, carburetter, toolbox, vulcanizer, new sparking plugs, mirror, jack. Beardshaw, Auctioneer, Wood Green. Trade 183-275

**EXCHANGES.**

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

**EXCHANGE** for cyclecar or light car a 1915 w.-c. Williamson combination, perfect, or accept cash, £85. 4 King's Rd., Mitcham. Phone, 1548 Mitcham. Trade 183-a177

**1914 CHATER LEA-PRECISION**, 6hp, 4-speed 1916 Jardine gearbox, £16 16s., Bramble sidecar, all in good condition, finished red, £70; or exchange Morgan. Hudson, 52 St. John's, Worcester. Trade 183-a107

**IF** you wish to effect an exchange of any description, consult the specialists. We please ourselves by pleasing you. The Light Car Co., 331 Euston Rd., London. Phone, Museum 3143. Trade 183-153

**EXTENDED PAYMENTS.**

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

**ALBERT LAW** (late motorcar manager for Wm. Whiteley, Ltd.). Deferred payment specialist, is now the managing director of the Purley Motor Garage, Ltd., Purley, Surrey. All makes of cars supplied by deferred payments, and he will be glad to advise on these matters free. Ring up 103 Purley (not a trunk call from London), or write, when you can be assured of his personal attention. Trade 183-433

**INSURANCE** policies. Annual premium payable monthly without extra cost; lowest rates and full insurance for light cars and cyclecars. For prospectus of Lloyd's motor policies write Manager, General Insurance Co., 199 Piccadilly, London, W. Trade zzz-992

**"GOD save the King!"** To His Majesty's officers stationed in the country or on leave home from the Front. I have now made special financial arrangements whereby I can supply officers or others with light cars on special deferred payment terms, and when they are called up, or have to go back to duty, I am prepared to make propositions to either sell the car for them, buy it back, or transfer the deferred payment contract. This means that they will not be burdened with the trouble of selling their car before leaving for the Front. Before entertaining any light car deal, come and see me. I have the finest stock in London, and not having an expensive showroom rent to pay, my prices are right. Cars on view at my garage, 2 minutes from office. Write, wire, phone or call, Marian G. Paige, the only Lady Motor Dealer, 199 Piccadilly (an office opposite the Piccadilly Hotel), 12 years practical experience. Tel. "Womanish, London." Phone, Gerrard 4417. Trade 183-37

**FINANCIAL, Etc.**

**FINANCIAL** and introductory assistance given to manufacturers of light cars, or anything motorish likely to sell. Give full particulars, Paige, 199 Piccadilly, W. Trade 183-36

**FOR HIRE.**

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

**HOODS AND SCREENS**

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

**TODD and CO.**, Duncan St., Islington. Shop-soiled hood and screens, suitable Morgans, etc., cheap; hoods recovered. Phone, 249 North. Trade 185-e387

**LIGHT** car hoods 50s., windscreens 35s.; hoods re-covered, trade supplied. Lang and Webb, Jackson Rd., Holloway, London. Trade 183-e899

**INSURANCE.**

**WHY** pay your insurance premium a year in advance when you can pay monthly without extra cost? Lowest rates and full insurance for light cars and cyclecars. Annual premium payable monthly. For prospectus of Lloyd's Motor Policies, write Manager, General Insurance Co., 199 Piccadilly, London, W. Trade zzz-970

**REPAIRERS.**

**THE AZ-NU** Works, 21 Risinghall St., Pentonville, N., radiator, lamp and welding specialists, American radiators a speciality. Trade zzz-817

**RADIATOR** and lamp repairs by skilled workmen, lowest prices, quickest delivery, no cure, no pay. Lloyd Motor Radiator Co., 277 Monument Rd., Birmingham. Trade 187-j488

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

**G. N. HIGGS.** While engaged, to a large extent, on overhauls to Government cars, we can undertake a limited amount of private work.

**OVERHAULS** are carried out by competent mechanics, all experts in their particular branch. We pride ourselves on having secured the services of some of the best engine fitters in England, and make a speciality of this class of work.

**SPARES.** Any replacement unobtainable from the makers is made in our own machine shop.

**GEARS,** spurs, bevels, skew.

**SHAFTS,** valves, pistons, etc.

**PATTERNS** for simple or intricate castings

**TRADE** supplied.

**G. N. HIGGS,** 31 Vauxhall Bridge Rd., Victoria, S.W. Trade 183-62

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



## SITUATIONS VACANT.

**Defence of the Realm Act**

REGULATION 8 (b).

*Under the above regulation, advertisements offering situations with firms whose works are situated within 30 miles of London and whose business consists wholly or mainly in engineering, ship-building, or the production of munitions of war, or of substances required for the production thereof, must contain the words:—*

**'NO PERSON ENGAGED ON GOVERNMENT WORK OR RESIDENT MORE THAN 10 MILES DISTANT NEED APPLY.'**

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

## TUITION.

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

**BRIGHTON.** Turberville Motor School for ladies and gentlemen and their servants. Driving instruction cars, new 1915 model. Technical rooms filled with complete working chassis. Lady instructor for ladies. Prospectus free. Bath St., Seven Dials. 'Phone, 371 Brighton. Trade zzz-512

**BRIGHTON.** Learn to drive in comfort and safety at the Turberville Motor School, Bath St., on an up-to-date new 1915 model car. Prospectus free. 'Phone, 371 Brighton. Trade zzz-513

## TYRES AND TUBES.

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

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

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

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

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

**ECONOMIC.** Continental 650 by 75 and 760 by 80, very heavy rubber-studded covers, 31s. 6d.; Palmer cord heavy 3-ribbed cyclear covers, fully guaranteed, latest pattern, 700 by 80 50s., 710 by 85 57s. 6d.

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

**ECONOMIC** for 30 by 3 and 30 by 3½ Ford covers and tubes, in stock. Special terms to commercial users.

**ECONOMIC** for all requirements. Lamps, speedometers, etc.; quickest despatch, keenest prices; retreading and repairs; a tread for every casing.

**ECONOMIC TYRE CO.,** 137 Lewisham High Rd., New Cross. 'Phone, New Cross 1393. Open till 9; early closing Thursdays. Trade 183-e916

## WANTED.

## Cars.

**WANTED,** for cash, immediately, any makes, second-hand light cars. Rey, 378 Euston Rd. Tel., Regent 4219. Trade 211-c420

**WANTED.** Good second-hand or new light cars purchased for cash or taken in exchange for new cars or motorcycles. Service Co., 222 High Holborn, London. Trade zzz-253

**IF** you want to dispose of your light car, we will give you good market value, spot cash down, no delay; no models previous to 1913 wanted. Ring up Holborn 3777, or write Wauchoppe's, 9 Shoe Lane, London. Trade 183-324

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

**WANTED,** light cars, cyclecars, spot cash paid, bring or send. Wandsworth Motor Exchange, Ebner Street, Wandsworth (Town Station). Trade 186-b814

**WANTED,** Morgan runabouts, fair prices given for clear purchase, or taken in part payment car or motorcycle. James Fryer, Ltd., Commercial Road, Hereford. Trade zzz-303

**HUMBERETTE,** Singer, Calcott, Standard, or any good make for cash. J. Phillips, 164 Elm Park Mansions, Park Walk, S.W. zzz-758

**WANTED,** G.W.K., good condition, London district, state equipment, date, and price. Atkinson, 107 Highbury New Park, N. 183-e327

**STRETTON** and **SMITH** will pay top prices for Stellites, Calcotts, Singers, Morris-Oxfords, Perrys, or any other modern cars of reputed make. 23 Woodstock St., Bond St., W. Trade 183-94

**YOU** will obtain the highest price for your car by placing it in our show-rooms for disposal; only modern cars, in first-class order, considered. Smith and Hunter, 15 Little Portland St., Oxford Circus. Trade 183-34

**WANTED,** 1915 10hp A.C. light car, would consider a 1914, provided in good condition. Box No. 8216, c/o "The Light Car and Cyclecar." Trade 183-a179

**WANTED,** A.C. Sociable, 1914 or later. Cash price, condition, to Tyrell, 100 Southwark St., S.E. 183-a172

**WANTED,** 2-seater light car or cyclecar, 8-10hp, genuine second-hand, reputed make only, fullest particulars. Weekes, 10 High St., Old Brompton, Kent. 183-a171

**MORGAN** wanted, good order, in exchange for G.N. cyclecar and cash to £10; see under G.N.s. 211 Garratt Lane, Wandsworth. 183-a168

## WANTED—Cars—(continued).

**LADY** requires immediately for business, modern light car. Fancy-price merchants don't waste time. 81 Wilberforce Rd., Finsbury Park, N. 183-a164

**WANTED,** 1914 or '15 Singer, Calcott or Standard for prompt cash. Advertiser, 240 Finchley Rd., London. 183-a162

**G.W.K.** wanted in exchange for 1915½ sporting Morgan and cash adjustment. B. Roberts, Park Street, Windsor. 183-a149

**PRIVATE** motorist wants modern light car for cash, state mileage. Stiff, 115 Stockwell Rd., S.W. Trade 183-a125

**F. MESES and SONS** (Est. 1893), the original light car specialists, pay best market prices for high-class light cars. Write fullest particulars, or call with car; prompt cash. 156 Gt. Portland St., W. Telephone, 3426 Mayfair. Trade 183-135

**WE** specialize exclusively in light cars and cyclecars and are always open to buy any make. Offer us what you have for sale. We please ourselves by pleasing you. The Light Car Co., 331 Euston Rd., London. 'Phone, Museum 3143. Trade 183-152

**WANTED,** Singer, Calcott, Standard, or other good makes of light cars, either for spot cash or exchange. R. Bamber and Co., Ltd., 33 Liverpool Rd., Southampton. Trade 188-115

**PERHAPS** you are disposing of your cars, if so, give us a chance; cash paid on sight. Percy and Co., 337 Euston Rd., London. 'Phone, Museum 1337. Trade 183-130

**WANTED,** 1914 or 1915 Calcott, with lighting set, private owner preferred, consider 1915 Swift 10hp, give full particulars and price. Harris, Jordan Well Chambers, Coventry. Trade 183-114

**SEND** your light car at once (special cash price given) to Wandsworth Motor Exchange, Ebner St., Wandsworth Town Station. Trade 183-e912

**WANTED** on hire, one week, water-cooled Morgan. Box No. 8210, c/o "The Light Car and Cyclecar." Trade 183-a97

**G. N. HIGGS.**

**COMMISSION.** We want a few good cars for sale on commission. The best proof of our ability to effect a quick sale is that we are very seldom able to find enough cars to satisfy the requirements of our old clients. G. N. Higgs, 31 Vauxhall Bridge Rd., S.W. Trade 183-61

**WANTED,** immediately, light car, 1913-14, privately owned, Morris-Oxford, Singer, Standard, or other good make, cheap for prompt cash. C.A.C. Officers' Mess, 11th Devons, Wareham, Dorset. 183-a144

**GENTLEMAN** requires delivery before Whitsun of new Hillman, Calcott, Singer or Morris-Cowley. Send cash quotation and delivery date to Box No. 8208, c/o "The Light Car and Cyclecar." Trade 185-51

**WANTED,** 1915 Hillman, Singer or Calcott. Particulars and cash price to Box No. 8209, c/o "The Light Car and Cyclecar." Trade 185-52

**WANTED,** Calcotts, Singers, Morris-Oxfords, Standards, Hillmans, Humberettes, G.W.K.s. for spot cash, new or second-hand, good prices. Maudes', 100 Gt. Portland St., London, W. Trade 183-339

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

**LAMBORN MOTORS, LD.,** require at once a large number of light cars of the following makes, very best prices given.—Singer, Standard, Calcott, Hillman, Morris-Oxford. 3 Elizabeth St., Victoria, S.W. 'Phone, 6111 Victoria. Trade 183-a272

**G. L. FRANCIS and CO.** want good light cars, not earlier than 1914, best prices given. 22 Panton St., Leicester Sq. Trade 183-108

**WILL** any lady or gentleman who is unable to take delivery of new Calcott, Hillman, Singer, or Morris-Cowley, communicate with F. Mebes and Sons, the original light car specialists. They are prepared to take over the transaction immediately. 156 Gt. Portland St., W. Tel., Mayfair 3426. Trade 183-105

**WE** purchase for cash Singer, Calcott, G.W.K., Calthorpe and Morgan cyclecars; good prices offered. Elce and Co., 15-16 Bishopsgate Avenue, Camomile St., E.C. 'Phone, Avenue 5548. Trade 183-112

## Wanted—Miscellaneous.

**THE** Editor of "The Commercial Motor" will be pleased to be advised of any stocks of old type or obsolete commercial-vehicle spare parts, as well as of spares for those touring-car models which are commonly used for conversion to delivery vans, etc. Particulars should state types and principal parts available, and these will be included in the Spare Parts Bureau list published regularly in the editorial columns of "The Commercial Motor." Letters should be marked "Spare Part," and addressed to The Editor, "Commercial Motor," 7 Rosebery Av., E.C. zzz-75

**TWENTY** shillings given for a Humberette bevel pinion. Allen, 21 Hawthorn Ter., Dovercourt, Essex. 183-a161

**WANTED,** frame and wheels for building light cyclecar. Particulars to Adlam, 49 West Savile Ter., Edinburgh. 183-a106

## BOOKS AND PUBLICATIONS.

**"MOTORISTS' HANDBOOK,"** containing 200 questions and answers; a most useful and instructive book; the novice should always keep a copy on his car, price 1s., by post 1s. 3d. The Motor Training Institute, Ltd. (Dept. D), 10 Heddon St., Regent St., W. zzz-987

**"THE LIGHT CAR MANUAL."** Written throughout with a scrupulous choice of the simplest wording. Makes every detail of the light car clear as it goes along. Economical running and upkeep specially considered, and all driving problems dealt with. Contains a most instructive section on the control systems of most light cars now on the market. Price, bound in cloth 1s. 6d. net, in paper 1s. net, postage 1s. 9d. and 1s. 3d. respectively from "The Light Car and Cyclecar" Offices, 7-15 Rosebery Av., London, E.C. zzz-684

**"THE MOTORIST'S WORKSHOP."** The ideal book for every owner of a light car or cyclecar who wishes to undertake his own repairs. Clearly and entertainingly written. Illustrated. 1s. net, post free 1s. 2d., from "The Light Car and Cyclecar" Offices, 7-15 Rosebery Av., London, E.C.

**BOOKS AND PUBLICATIONS (continued).**

**"SECRETS OF TUNE."** How to get the best results out of a motorcycle. Written by the foremost riders on track and road. Exclusive information on getting more power and speed from a machine. Price 6d. net, post free 7½d. "The Light Car and Cyclecar" Offices, 7-15 Rosebery Av., London, E.C.

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**"HOW TO BUILD A CYCLECAR."** The very book for the amateur craftsman who is considering the possibility of building his own machine. Copiously illustrated with 94 scale drawings. 1s. net, post free 1s. 2d., from "The Light Car and Cyclecar" Offices, 7-15 Rosebery Av., London, E.C.

**"OBTAINING INCREASED POWER,"** by A. W. Judge, A.R.C.S., Wh.Sc. This book is designed for the assistance of the cyclecarist and light car owner. It is copiously illustrated with diagrams. It deals most thoroughly with the question of efficiency, and sets out in clear language the means by which the utmost power may be got out of the machine. 6d. net, post free 7½d., from "The Light Car and Cyclecar" Offices, 7-15 Rosebery Av., London, E.C.

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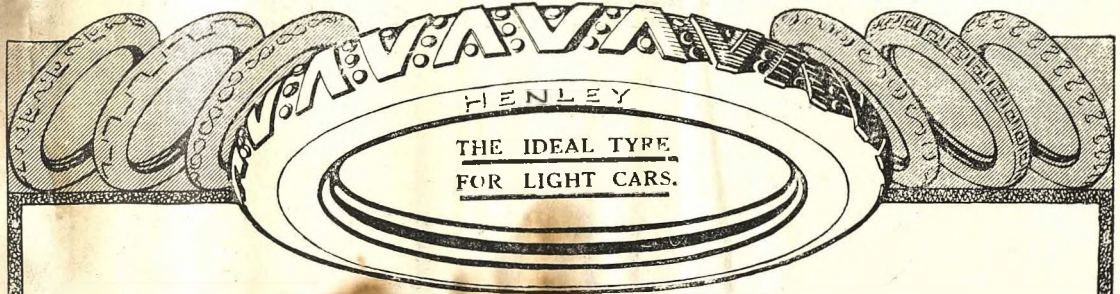
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