

# The Light Car and Cyclecar

Founded 1912  
The only Small Car Journal

3<sup>D</sup>

Vol. XXX, No. 760  
Friday July 1, 1927  
*Registered at the G.P.O.  
as a Newspaper*




## PICNICS DE LUXE.

Enterprising cottagers in several parts of the country are now serving tea to motoring parties who take it in their cars by the wayside. It is a much more pleasant and comfortable plan than the rough-and-ready camp-fire type of picnic which many lovers of the open air still favour.



# *Acceleration*

---



That extra spurt which enables you to pass other cars at will can only be obtained from an engine in tune.

## LODGE

### PLUGS

are unrivalled for getting the utmost out of the modern high-efficiency engine.



Standard Lodge C3  
sold everywhere

5/-

packed in sealed  
red metal box.

When buying plugs ask at your garage to see the Lodge Plug Chart, which shows the correct patterns of Lodge plugs for all makes of motor cars, or send a postcard for folder F2, which also gives this information, to:-

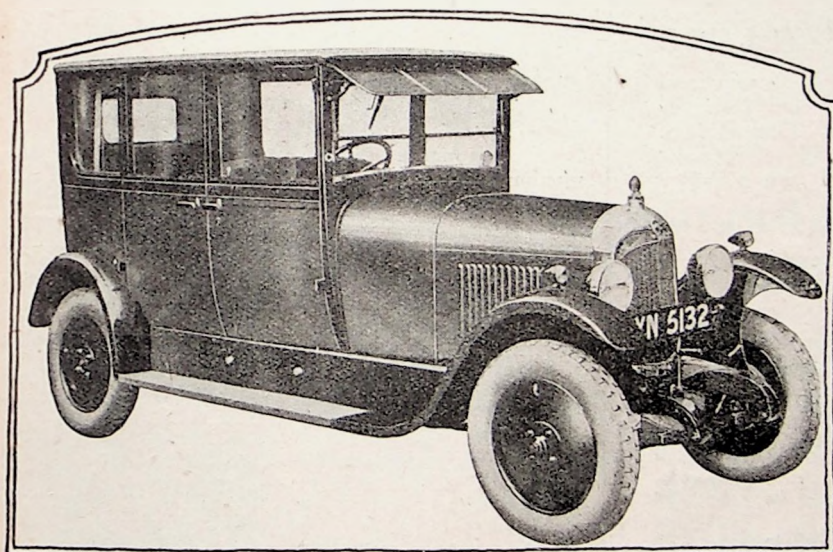
**LODGE PLUGS LTD.,  
RUGBY.**

*The Luxurious 11.4 h.p.*

**CITROËN**

3-SEATER COUPÉ and 4-DOOR SALOON MODELS  
at

**Reduced Prices**



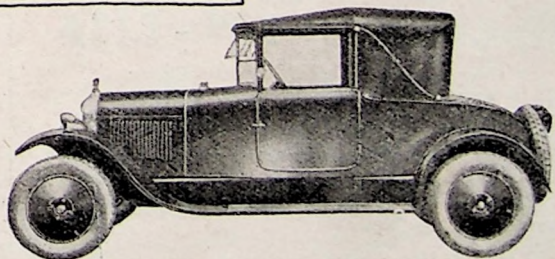
11.4 h.p.  
4-Door 4-Seater  
SALOON

**£198**

With F.W.B.

11.4 h.p.  
3-Seater Coupé

**£190**



*Send for the Citroën Book 18.*

CITROËN CARS, LTD.,

CITROËN BUILDING, HAMMERSMITH, LONDON, W.6.

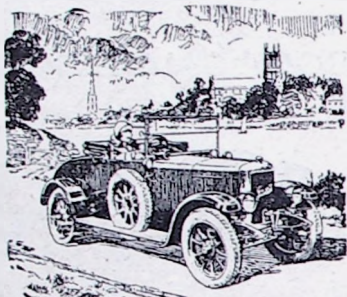
Showrooms: Devonshire House, Piccadilly, W.1.

MENTION of "The Light Car and Cyclecar" when corresponding with advertisers assists  
the cause of economical motoring.

M & C 80.

A1

Get your new car  
**TAYLORS**  
 easy **NO DEPOSIT** way  
 and with it get our free service.



### Taylor "Service" is Free

with every new car sold—it is a very real and valuable service and far too comprehensive to be dealt with here. Our 44 page "Buyers' Guide" tells you all about our Free Service. May we send you a copy?

### ALL MAKES SUPPLIED

for Cash, Exchange, or upon our new "NO DEPOSIT" divided payment plan. May we send particulars?

Amongst the range we handle the following give excellent and economical results:—

<b>CLYNO</b>	from	<b>£160</b>	to	<b>£250</b>
<b>JOWETT</b>	from	<b>£139</b>	to	<b>£185</b>
<b>AUSTIN</b>	from	<b>£145</b>	to	<b>£650</b>
<b>ROVER</b>	from	<b>£220</b>	to	<b>£625</b>
<b>MORGAN</b>	from	<b>£89</b>	to	<b>£134</b>

May we send you an Illustrated Catalogue describing the car which interests you particularly.

To ensure satisfaction Taylors supply Second-hand Cars upon 7 days' Trial.

#### THIS WEEK'S SECOND-HAND SNIPS.

ROVER, 1920, 8 h.p., 2-Seater	£25
SALMON, 1924, 9.5 h.p., 2-Seater	£65
AUSTIN, 1925, 7 h.p., 2/3-Seater	£92
CITROEN, 1924, 10 h.p., Coupe	£86
F.I.A.T., 1921, 2-Seater	£87 10
AERO-MORGAN, 1927, F.W.B.	£115

Full list gladly sent upon application.

#### HOURS OF BUSINESS.—

Saturdays 9 a.m. to 1 p.m. All other days 9 a.m. to 7 p.m.

**H. TAYLOR & Co., Ltd.**

49, 50, 52 & 53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.7.

\*Phone: Kensington 8564/9 and 6540.

\*Grains: "Dynametro. South Kensington."

**Pyrene**  
 TRADE MARK

## MOTOR CAR BUMPERS



"The Bumper with the Leaf Spring Buffer"



These photographs show some well-known makes of cars whose owners are already benefiting by Pyrene Bumper Protection.



Nowadays no car is complete without such efficient protection against the continuous risk of damage to Radiator, Wings, Lamps and Petrol Tank, etc.



Pyrene Bumpers ensure maximum resistance and absorption of shocks. The Leaf-spring Buffer provides extra strength and evenly distributes force of impact.

#### PRICES:

#### Pyrene Bumpers.

No. 1 (Small)	£3 10 0
No. 2 (Medium)	£4 0 0
No. 3 (Large)	£5 0 0

#### Fender Guards.

No. 1 (Small)	£3 15 0
No. 2 (Medium)	£4 5 0
No. 3 (Large)	£5 5 0

All the above prices include standard brackets. Where special brackets are required an extra charge of 10/- may be made.

Patent applied for.



Pyrene Spring-steel Bumpers are British made. Handsomely finished in Nickel and Black. Supplied in three sizes.

**Pyrene**  
 TRADE MARK

supplied in place of full length Bumper where luggage grid or spare wheel is carried at rear.



#### FENDER GUARDS

Write for folder P.B./M.

## THE PYRENE COMPANY, LIMITED,


Makers of the famous Pyrene Fire Extinguisher,

9, GROSVENOR GARDENS, LONDON, S.W.1.

Telegrams:

"Pyrenextin, Sowest, London."

Telephone: Victoria 8592 (4 lines).



## Bowling" Along.

Dear Sirs,

Glasgow.

Just a few lines to assure you that I find your claims for the Jowett Saloon are too modest. In the course of a week's holiday just completed, on June 14th and on June 17th, I did runs of 208 miles and 206 miles, the running times being 7 hours 45 minutes in each case and the consumption being 42.6 miles per gallon. I was not hard on the car at any time. The run was Corbridge-on-Tyne to Spalding (Lincs.). The route was through the very hilly part of Durham via Allansford and West Auckland. The return journey was the same route except via Sleaford to Newark instead of via Grantham. Total mileage in 10 days 1023. Total petrol 24 gallons. Load in car 462 lbs.

Yours *very* satisfied,  
(Signed) S.H.P.

The Jowett Saloon gives you every comfort and its price is only £185. Better value cannot be found. And so cheap to run. May be had under own private deferred payment scheme.

Short two £139. Long two £150. Chummy £145. Full four £150

Dunlop Balloons and Stewart Speedometers standard.

### JOWETT CARS LTD., IDLE, BRADFORD

## This Month's Special Offer

This timely facility makes it possible for you to obtain a wonderful New Mathis for the Summer Touring Season. We will take your present car as first payment for a New Mathis, the Balance on terms to suit your convenience. Immediate delivery can be given. Do not delay, and as a first step call now for a

## Mathis Free Trial Run.

We realise that the only way to make known to the motorist the exceptional merit and efficiency of the New MATHIS is to let the Car "Talk for Itself."

Therefore, accept our invitation to a Free Trial Run NOW. Enjoy for yourself the effortless power and flexibility of the unique slow-turning engine, the luxurious comfort of the special Weymann Coachwork, and the many other BIG CAR features which will delight you. Your trial run is absolutely without obligation or pressure to purchase.

10 h.p., 4-door, All-weather  
Touring Car - - - £185  
Chassis - - -

WRITE TO-DAY! Full illustrated particulars of Mathis super efficiency at low cost sent POST FREE.

Sole Concessionaires for United Kingdom.

## B.S. Marshall LTD.

PERSONAL SERVICE ALWAYS.

25, BASIL STREET,  
Knightsbridge  
(near Harrods),  
LONDON, S.W.

Phone: Sloane 6118/9.  
Grams: "Aumarshano, Knights, London."

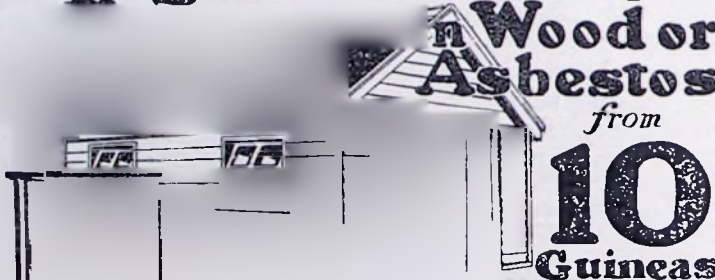
Accredited  
Agents for:-

ALVIS  
AUSTIN  
BUGATTI  
HAMPTON  
LEA-FRANCIS  
STANDARD

MATHIS  
4-Cylinder  
Speeds  
Wheel  
Brakes  
Full Springs  
40 M.P.G.

**TRY A MATHIS — THEN APPRECIATE THE DIFFERENCE !**

## Ready-to-Erect Garages



GLIDING OUT-OF-WAY DOORS

FREE INSURANCE AGAINST FIRE

FREE PLANS FOR COUNCIL APPROVAL

DEFERRED TERMS CAN BE ARRANGED

**You merely have to erect it.**

Any handyman can erect a Thornber Garage in one afternoon. All the work is done for you—it is just a matter of bolting **complete** sections together. No loose timber is sent, every section is fully framed and complete, and the holes are bored in exact register to receive the bolts. All fittings are supplied and to ensure a no-trouble job every Garage is erected at Thornbers Works before it is despatched in sections.

### BUILT TO LAST AND TO PLEASE.

Workmanship throughout is solid and clean. No better value in Portable Garages is offered anywhere. Thornbers are experts at their job, and modern machinery which cuts out expensive hand labour is solely responsible for the low prices. When you buy a Thornber Garage, your outlay is completed—you have no additional expenses to meet for fittings, etc.

Gliding Out-of-Way Doors that move at a child's push, occupy no room and obviate hinged door weakness. Free Fire Insurance Policy. Free Plans for submitting to Council. Sizes for all popular makes of Cars. Deferred Terms arranged. Quick Deliveries. Garages can be inspected at works. **SEND FOR FREE FOLDER AND STATE REQUIREMENTS.**

Thornbers make all kinds of Portable Buildings for all purposes—Army Huts, Shops, Pavilions, Institutes, Bungalows, Poultry Houses, etc. State requirements—we will send free folders.

**THORNBERS**  
FOR EVERYTHING IN WOOD

9, MYTHOLMROYD, Yorkshire.

London Office: 47, Victoria St., S.W.1  
(where Model Garages may be inspected).



**New Army Huts**

Send for free folder

WHEN REPLYING to advertisements, mention "The Light Car and Cyclecar." It helps the advertiser and you, and assists the small car movement generally.



## A touch of the Toe

brings your brakes into immediate progressive action, giving you perfect, effortless Control over your Car—Supremely important to-day.

This is accomplished by the Dewandre Vacuum Servo—a neat, simple and self-contained unit, which fits into any Four-wheel braking system.

40 Leading Car Makers already fit the Dewandre mechanism as standard equipment.

No car is absolutely safe without it and you should have it on your Car.

Sole Licensees & Manufacturers:

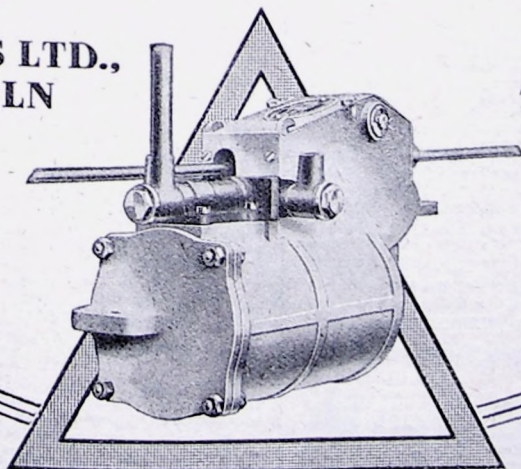
**Clayton**

**WAGONS LTD.,  
LINCOLN**

Telegrams:—  
"ABBEY, LINCOLN."  
Telephone:  
LINCOLN 950.

**DEWANDRE**  
**VACUUM SERVO SYSTEM**

**BRITISH  
MADE  
THROUGHOUT**



Write for  
Illustrated  
Catalogue.

**READERS, NOTE.**—It assists the small car movement and the advertiser, and ensures you prompt attention, to mention "The Light Car and Cyclecar" in your enquiries.



"As Fresh and  
Sweet as the  
Country Air"

After a trial of other tobaccos,  
smokers who come to "Country  
Life" are impressed by its  
remarkable freshness.

COUNTRY LIFE  $1/0\frac{1}{2}$  per oz.  
(Mild and Medium)

COUNTRY LIFE  $11^D$  per oz.  
(White Label)

Player's  
**"Country  
Life"**  
TOBACCO

C.L. 174

## PRATTEN'S



EACH of the Garages illustrated is manufactured in our own workshops of the best quality materials, and supplied in sections which can be easily erected without skilled labour — carriage paid.

You are cordially invited to inspect them at our works, which is the most up-to-date in the West of England, where we shall be pleased to show you the process of manufacture. Prices are lowest consistent with first-class workmanship.

All Garages supplied by us are insured against fire — free

1. THE "STERLING" ASBESTOS GARAGE.  
15' 0" x 8' 4" x 7' 3" £14 0 0  
17' 0" x 10' 6" x 7' 3" £16 0 0
2. THE "POPULAR" GARAGE.  
12' 0" x 7' 0" x 6' 0" £9 0 0  
14' 0" x 8' 0" x 6' 0" £11 0 0
- The "DUPE" JOINT GARAGE  
14' 0" x 8' 6" x 6' 0" £15 5 0  
16' 0" x 8' 6" x 6' 0" £16 10 0

D.A.77

## HEALTHY, HAPPY WEEK-ENDS!!

Make the most of your week-ends. Get where the healthy breezes blow. Take a "KAR-KAMP" Tent with you and camp where you like. Bathe where you like. Get pleasure from your leisure, and save the coat and inconvenience of looking for accommodation.

KAR-KAMP

ROTPROOF

BRASS FASTENERS

TRIPLE STRENGTH

METAL JOINTS

BRASS EYELE

ERECTED IN TWO MINUTES  
MAY BE FASTENED FROM INSIDE OR OUTSIDE

HAVE LUNCH IN THE OPEN  
Find a nice spot, pitch your tent (with Extension as Fig. 2), and have your lunch in comfort while gazing on the surrounding country. You will find "KAR-KAMPS" everywhere.



Patent applied for.  
Can be supplied with Patent Extension at extra cost, 7/6 to 10/-, according to size, as per Fig. 2.

# KAR-KAMP TENTS

Made of strong Green Waterproof Fabric in five sizes, weighing from 10 to 16 lb. Complete with jointed poles, pegs and ropes. Carriage paid. Cash with order. 50/- to 72/6

Send for Illustrated Pamphlet, giving sizes and particulars, and sample of fabric.

"KAR-KAMPS" (Dept. C), 29, Cannon Street, Manchester.

Manufacturers of Tents, Dustproof and Waterproof Motor Covers.

# THE LE MANS RACE

— 1927 —

## An Afterthought.

Do you realise that the Salmson cars which proved so successful in the Le Mans race were standard cars, the same as you can buy? It is a fact that these cars were in competition with other makes of two and three times their engine capacity and horse power.

Of course it is nothing new for Salmson to show their superiority over larger cars, but on second thoughts it does show what a wonderfully efficient car the Salmson has proved itself to be.

Prices from £165

*All Models on View at Sole London Distributors :*

## Gordon Watney & Co., Ltd.

31, BROOK ST., BOND ST., W.1.

Part Exchanges and Deferred Terms.

\*Phone—MAYFAIR 0267/8/9.

SOLE CONCESSIONNAIRES FOR UNITED KINGDOM AND BRITISH DOMINIONS :

**S.M.S. Ltd., Church Wharf, Chiswick Mall, W.4.**

*The small advertisement columns of "The Light Car and Cyclecar" form a unique mart for the disposal of all goods of interest to small car users.*

about the

manner the petrol is  
thoroughly homogeneous mixture  
results."

As fitted to the Singer Junior the  
Carburettor has never failed to  
allow of an instant start from cold."

"The maximum speed under  
reasonably good road conditions is a  
genuine 50 m.p.h. and hill-climbing is  
proportionately good."

On combined country and town runs consumption  
with a No. 20 jet works out at 45 m.p.g. It appears  
evident that the mixture strength throughout  
the throttle range is particularly well balanced."

The "Light Car & Cycle Car" represents  
an opinion that cannot be ignored—for  
it is EXPERT OPINION.

What actual Car-  
Owners say about  
the "B & B." Write  
for Your Copy.

Prove our Claims by  
fitting a "B & B" to  
your Car under our  
30 Days' Approval  
Scheme.



BROWN & BARLOW LTD.,  
Carburettor Works, Wilton, Birmingham.  
London Service Agents: Dartford Eng. & Carriage  
Co., Ltd., 23/24, Hythe Road, Willesden, N.W.10

Prices from  
£3 - 10 - 0

TRADE MARK.



REGISTERED

THE PERFECT  
UPPER CYLINDER  
LUBRICANT.

PUT IT IN YOUR  
FUEL.

Write for Explanatory  
Book Free.

**WE GUARANTEE**

ABSOLUTE LUBRICATION  
OF THE CYLINDER WALLS  
AND ALL UPPER WORKING  
PARTS.

LONGER LIFE OF ENGINE.  
CURES KNOCKING.

MORE POWER, SPEED AND  
PICK-UP.

EASY STARTING.  
INCREASED MILEAGE.

CARBON DEPOSIT  
REDUCED TO A MINIMUM.

NO GUMMING UP.  
NO SEIZE UP.

4 oz. Tin 1/6. Postage 2d. extra.  
Pint oval shape for tool bag.  
8 oz. Tin 1/3. Postage 3d. extra.  
16 oz. Tin 2/3. Postage free.  
32 oz. " 6/-. Postage free.  
A 32 oz. Tin treats 64 gallons of Fuel.

Directions: Pour half an ounce into  
each gallon of petrol or other Fuel.  
There is a half-ounce measure on  
each tin. No stirring or mixing  
required.

THE MIXTROL OIL CO.,  
43, BERNERS STREET - LONDON, W.1.  
Telephone—Museum 4044. Telegrams—"Oilmixtrol, Wexda."

## "WELLINGTON" LIQUID METAL POLISH

A  
POLISH  
THAT,  
with a  
minimum  
of labour,  
GIVES A  
REAL  
BURNISH  
THAT  
LASTS.



CLEANS  
and  
POLISHES  
ALL  
METALS  
(including  
Silver)  
and  
GLASS  
(Windows,  
Mirrors),  
Motor-Screens  
(Glass or  
Celluloid).

TRY IT  
and  
PROVE IT.

In TINS, 3d., 4½d., 7½d. & 1/3; also in ½, 1 & 1 Gallon Cans.

JOHN OAKEY & SONS, LTD.,  
WELLINGTON MILLS, LONDON, S.E.1.

MENTION of "The Light Car and Cyclecar" when corresponding with advertisers assists  
the cause of economical motoring.

# These 5 features have made many 9/20 H.P. Owners CARS for QUALITY

Revised prices of models fitted with  
Front Wheel Brakes

9 20 H.P. 2/3-Seater with  
Dickey Seat .. £267 7s

9/20 H.P. 4-Seater  
Tourer £267 7

9/20 H.P. 4-Seater  
Saloon £322 7s.

Dunlop Tyres Stant

The inte f levers and cams of the forms

MOD ARE AVAILAB  
IMMEDIATE DELIVER

Send for fully illustrated  
Catalogue and name  
of n

## AMPLE POWER.

The powerful 4-cyl. Humber engine vindicates in practice the principle of its design. It has proved itself time and again on track and road alike to be unsurpassed for reliability.

## ECONOMICAL RUNNING.

Your pleasure is not marred by large demands on your pocket for running and upkeep.

## FRONT WHEEL BRAKES.

Fulfilling the felt need for security in dense traffic and ensuring confident driving.

## MODERATE PRICE.

The lowest figure compatible with integrity of construction throughout.

## HUMBER QUALITY.

The guarantee of a name famous all over the world for British Craftsmanship.

## HUMBER LIMITED, COVENTRY.

### LONDON:

West End Showrooms: 94, New Bond Street, W.1.

Export Branch Office: 32, Holborn Viaduct, E.C.1.

Repair Works and Service Depot: Canterbury Road,

9/20 h.p. 4-Seater Tourer, with Front Wheel Brakes.

TO THE READER.—By mentioning "The Light Car and Cyclecar" when replying to advertisements, the progress of the small car movement will be assisted.

# Antibounce

THE WISE - MAN OF THE ROAD

MAKES THE OFFER OF A MONTH'S FREE TRIAL OF THE STOTT ANTIBOUNCE CLIPS TO EVERY CAR OWNER.

Here is your opportunity to test for yourself the claims made for these Clips, which are the cheapest and most efficient Shock Absorbers on the market. No matter what the year, make or H.P. of your Car, you will find these little Clips, fitted to the springs, will effect an immense improvement in the suspension, greater comfort when travelling over rough roads, and easier steering.

Here is a testimonial which I have received from a motor owner who has taken advantage of this offer :-

"I have much pleasure in enclosing a cheque in payment of Stott Antibounce Clips which fitted to my Austin 7, as I shall be retaining them, and have no need to wait for a full month's trial. I have already proved them a decided advantage. The improvement in cornering is most noticeable, and the car does not pitch over bad roads as it used to."

THEREFORE DROP A POSTCARD TO THE MAKERS, GET A SET OF STOTT ANTIBOUNCE CLIPS AND TRY THEM FOR YOURSELF.

PRICES from 11/6 PER PAIR.

RICHARD BERRY & SON

(Department "A"),

Mafeking Road, SMETHWICK.

Phone-631  
Smethwick.

Grams-"Springs,  
Smethwick."

## Instant Connection or disconnection with Autoclix

(World-wide Patents and Provisional Patents.)

### The Scientific Sparking Plug Attachment.

No more screwing and unscrewing of terminals to clean or test plugs, no more lost terminals, loss of time, or dirty hands. "Autoclix" clicks on to your plugs, or off, instantly, just as you need—a firm electrical contact—a handsome refinement.

You can buy this great little fitment at your local garage, accessory dealer, or direct from:

**LECTRO LINX LIMITED**

Manufacturers of Cliz Radio Fitments,  
MOTOR DEPT.  
254, Vauxhall Bridge Road  
LONDON, S.W.1.

Write for descriptive leaflet.

Telegrams: "Trolinx, Churton, London." Telephone: Victoria 5120.

1/-  
EACH

4/- per set of 4

Complete with  
Adaptor, Resilient  
Non-vibratory Plug  
and Insulator,  
Nickel-Plated.

## 26,000 MILES on STEPNEY TYRES AND STILL RUNNING

Llanelly, 2nd April, 1927.

Dear Sirs,

You may be interested to have the record of the five Stepney Balloons I bought for my 11'6 Standard when I converted from high pressure tyres.

My agents, Clifford Davies & Co., Lloyd Street Garage, fitted them in July, 1924, and up to date they have run over 26,000 miles, mostly on the so-called roads in this district. I have

had a few punctures recently, owing to picking up nails and the tread being rather thin, but I am sure they will clear the 30,000 mark easily.

I have just replaced two tubes which had deteriorated through rusty rims, otherwise they have never caused me a moment's anxiety. Yours truly,

(Sgd.) T R D.

**BUY "STEPNEYS"  
NEXT.**

Two British Grippers.

STEPNEY TYRES, LTD., LLANELLY,  
and WALTHAMSTOW, LONDON, E.17

# TAKING THE "B" OUT OF "BOIL"



If she gets all hot and bothered and spits steam from the radiator cap, consider the oil question. Never occurred to you? Preferred in the past to follow the Book of the Words? Never mind. Try the right grade of Motorine—and use your own judgment. You'll see.

Send a p.c. or the coupon below for the free book "The Car" (or, if you're a motor cyclist, "The Motor Cycle").

Price's, the Oil People, London, S.W.11.

You are offered, free, the advice of Price's Technical Bureau. Send your oil problems to Price's.



## MOTORINE

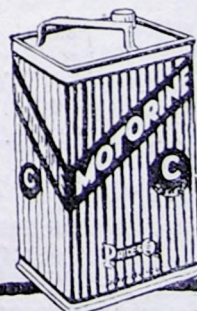
*very special oil*

**COUPON.** To PRICE'S, The Oil People (Dept. EE12), London, S.W.11

Please send the books I've ticked. "The Car" ( )  
"The Motor Cycle" ( ), Both! ( ) I'm interested.

Name.....

Address.....



Price's Patent Candle Company Limited, London, S.W.11.

WHEN REPLYING to advertisements, mention "The Light Car and Cyclecar." It helps the advertiser and you, and assists the small car movement generally.

**SAFE INV**

Take the open road  
on an

*The Three-wheeler that runs like a four."*

### That holiday feeling

can best be satisfied by an Omega, the little car which will take you comfortably and economically where you will. Designed on big car lines throughout, and as steady and satisfactory as any four wheel car, yet showing a considerable saving in both first cost and upkeep. Fitted with 8 H.P. J.A.P. Engine, 27" x 4" Dunlop Tyres, smart dummy radiator, electric horn, and lighting by 5 lamps, completely weatherproof.

*We have a few demonstration models, including O.H.V. Sports, at attractive figures.*

*Write to-day.*

### PRICES :

POPULAR MODEL ..	£95
DE LUXE ..	£110
FAMILY, as illustrated	£115
SPORTS MODEL ..	£125

WRITE TO-DAY FOR OUR FULL CATALOGUE.

W. J. GREEN LTD., OMEGA WORKS, COVENTRY.

## ANOTHER SENSATIONAL OFFER

OF THE WELL-KNOWN

**"BERKELEY"**  
COMBINED TEA AND  
LUNCHEON BASKETS

Direct from the Manufacturers

**AT HALF  
SHOP PRICES!**

These Baskets are exceptionally well fitted with best quality Stainless Cutlery and every necessary Requisite both for Luncheon and for Tea.

For 2, 4 and 6 persons.

The Basket for two persons contains two Provision Boxes, Wicker-covered Beverage Flask, ditto Tumblers, China Cups and Saucers, Plates, 'mproved Pattern Quick-boiling Kettle with Screw Lid and Spout to carry water, Spirit Stove and Stand (see note below), China Butter and Preserve Jars, Tea and Sugar Box, Milk Bottle, Mustard Pot, Non-leaking Pepper and Salts, Linen Serviettes, etc.

A MOST COMPLETE AND PRACTICAL OUTFIT.

LARGER SIZES:—

Fitted for Four Persons (22"x13"x8") **63/-**

" " Six " (24"x14"x9") **82/6**

Free Delivery London District, Carriage fwd. elsewhere.

NOTE.—Baskets may be had fitted with superior quality Vacuum Flasks instead of the Kettle Outfit if required. Please state which when ordering.

SEND AT ONCE FOR IMMEDIATE DELIVERY.

Satisfaction Guaranteed **BERKELEY BROS. (Dept. B),**  
or money refunded. 179, VICTORIA ST., LONDON, S.W.1.

"BERKELEY" PICNIC BASKETS actually save their cost in a few outings.

B4

READERS, NOTE.—It assists the small car movement and the advertiser, and ensures you prompt attention, to mention "The Light Car and Cyclecar" in your enquiries.

*The Laystall Cylinder Regrinding Plant is the largest in the World*

*The very best  
for*

**Racing  
Cars**

**THE DE LUXE  
Sports  
ALUMINIUM  
PISTON**

*Note the design  
of the De Luxe  
Strength & Lightness*

**DE LUXE LIGHTWEIGHT  
CAST IRON PISTONS  
ARE THE LIGHTEST  
CAST IRON PISTONS**  
— Best for General use

**LAYSTALL**

EWER ST., SOUTHWARK, LONDON, S.E.1

Telephone HOP 6140 (9 lines)  
Northern Branch Works, 55, FONTENAY STREET, LIVERPOOL

## Seeing is believing

Take cars, for instance. You can meet some cars in some showrooms that look just dreams of beauty and efficiency . . . until you get them on the road.

Avoid that sort of seeing. Come to the Service Company and you can believe all you see for there is nothing hidden.

The Service Company are out to give their customers a straight deal and straight value. That is how their business has attained its present size and that is how it is going to go on growing.

We don't bother you and badger you when you come to choose your car. We invite you to stroll round and make your choice. After that we are happy to advise you if you want us to. We can give you real inside information about running costs, upkeep costs, and everything.

More than that, we can extend to you our wonderful system of deferred payments which lets you get your car right away and pay for it over a period timed to suit your convenience and your pocket.

Last of all, but not least, we make you a free offer of our wonderful Service Department where you may come for advice and help at any time.

**FREE!** Let us send you a copy of our new catalogue—"The Diary of a Car Tester." You will find it full of helpful hints and information.

Any new car supplied on the  
NO DEPOSIT SCHEME.  
First monthly instalment secures  
delivery.

### ROVER.

4-Seater Tourer ..	£225
£45 down.	
12 payments of £15	15 0
18 .. ..	10 15 0
24 .. ..	8 5 0

### SINGER.

4-Seater Senior ..	£220
£44 down.	
12 payments of £15	8 0
18 .. ..	10 10 2
24 .. ..	8 1 4



### SWIFT.

4-Seater Touring ..	£210
£42 down.	
12 payments of £14	14 0
18 .. ..	10 0 8
24 .. ..	14 0

### PEUGEOT.

4-Seater Tourer ..	£165
£33 down.	
12 payments of £11	
18 .. ..	
24 .. ..	

### WOLSELEY.

4-Seater Touring ..	£215
£43 down.	
12 payments of £15	1 0
18 .. ..	10
24 .. ..	

### JOWETT

2-Seater .. ..	£150
£30 down.	
12 payments of £10	10 0
18 .. ..	7 3 4
24 .. ..	5 10 0

### USED CARS.

Should you be seeking a second-hand Car, we have a variety of overhauled demonstration and used models that can be bought for cash or easy payments. Every one is a genuine bargain and is backed by our jealously guarded reputation.

### AUSTIN "7"

7 h.p. Chummy ..	£145
£29 down.	
12 payments of £10	
18 .. ..	6
24 .. ..	5

273-274, High Holborn, London, W.C.1

Telephone: Holborn 0666 (3 lines).

Telegrams: "Admittedly, London."

# The Summer Holidays are at Hand—

so why not take them this year with a car and let all the worries and bother of train catching be a thing of the past.

Enjoy a really good holiday this year and visit all the places you have always wanted to visit on the car you have always wanted to own.

We can supply you with any make of car.

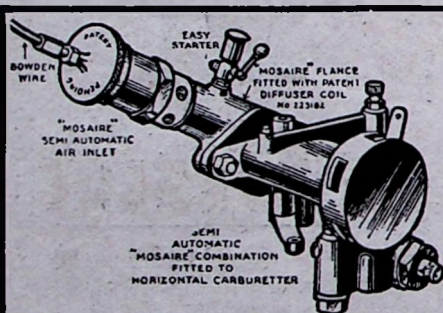
## IMMEDIATE DELIVERY CAN BE GIVEN OF AUSTIN SEVENS.

We invite you to write or call and discuss with us the question of your new car.

We can take your old car in part exchange for the new one and the balance can be paid by instalments.

Our specially equipped service station is ready to give you service after purchase which will be entirely satisfactory to you.

**BOYD-CARPENTER & THOMPSON LIMITED**  
47, West End Lane, Kilburn, N.W.6 Hampstead  
4977.



**THE SEMI-AUTOMATIC**  
Price 35/- Complete.

### Fit The "Master" Extra Air Valve and obtain—

- 1.—More miles per gallon.
- 2.—Increased power, due to the admission of a larger volume of more intimately mixed gaseous fuel into the cylinders. A super charger in simple form.
- 3.—A sweeter running engine.
- 4.—Freedom from oily plugs and less oil consumption.
- 5.—More efficient braking power with less wear on linings.

Send for our 54-page Booklet giving the Opinions of Owner-Drivers under all sorts of conditions.

**ALDAM & CO.**  
(M Dept.), MISTERTON, DONCASTER.

Distributors for Birmingham and District:  
Ashdon Engineering Co., Ltd., Floodgate St., Birmingham.



**PRICE: Hand Operated,**  
30/- Complete.

## LET HOMAC'S FIX YOU UP RIGHT AWAY

*If You're Looking for a Light Car, There's Only  
One Place to Come to—Homac's the Light Car Experts.*

We can give you speedy delivery of any model you select, which you can obtain for a small deposit on our simple Easy Payment System. Our expert advice is free, and our efficient overhaul and repair service is based on the most reasonable of charges. Don't put it off any longer. Call to-day.

**MORGANS from £89**

We are the Official London Morgan Service Depot and guarantee you efficient and dependable service at all times.

243/7, LOWER CLAPTON ROAD.

**HOMAC'S**  
MOTOR AGENTS

Phone: Clissold 2408.

**ROVERS from £220**

Your present machine accepted in part payment. Write for catalogues.

Works 46, London Road, Clapton, E.5.

THE  
STERN  
ORACLE

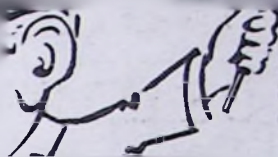
ABRIDGED  
RECOMMENDATION  
CHART.

WW means Sternal WW Light  
WWm means Sternal  
WW Medium  
WWh means Sternal  
WW Heavy  
WWeh means Sternal  
WW EXTRA HEAVY.

A-C 4-cyl. . . . .	WWh
A-C 6-cyl. . . . .	WWm
Alvis . . . . .	WWh
Armstrong-Siddeley . . . . .	WWh
Austin (all models) . . . . .	WWh
Bea . . . . .	WWm
Bentley . . . . .	WWh
Buick . . . . .	WWm
Citroen 7-5 h.p. . . . .	WWm
Citroen (other models) . . . . .	WWh
Claire . . . . .	WWh
Crossley . . . . .	WWh
Daimler . . . . .	WWm
Dodge Bros. . . . .	WWm
Esser . . . . .	WWm
Flat . . . . .	WWh

MOTOR OIL

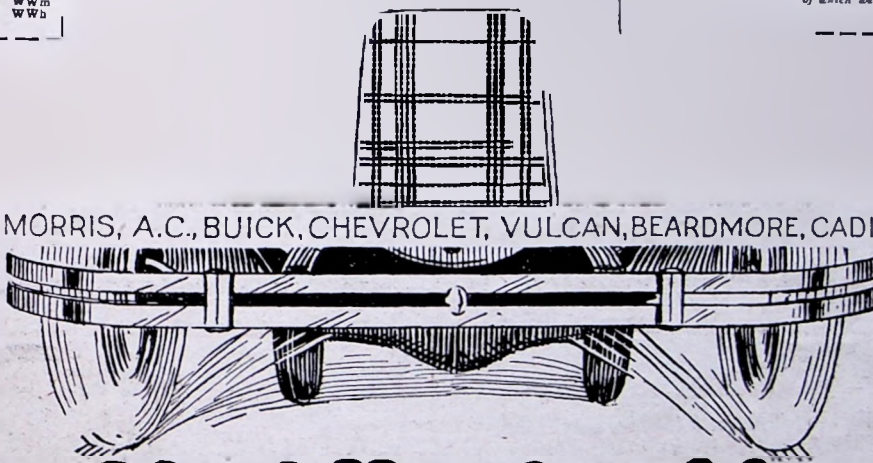
STERNOL  
OIL



Ford . . . . .	WWh
Humber 8 h.p. . . . .	WWm
Humber (other models) . . . . .	WWh
Lagonda . . . . .	WWm
Lanchester . . . . .	WWm
Lancia (Lambda) . . . . .	WWm
Lancia (other models) . . . . .	WWh
Miserva . . . . .	WWm
Morris . . . . .	WWm
Renault 8 h.p. . . . .	WWm
Rolls-Royce . . . . .	WWh
Rover 8 h.p. . . . .	WWh
Rover 9/20 h.p. . . . .	WWm
Rover (other models) . . . . .	WWh
Singer . . . . .	WWm
Standard 11 h.p. . . . .	WWm
Standard 14 h.p. . . . .	WWh
Sunbeam . . . . .	WWm
Swift . . . . .	WWm
Vauxhall 23/60 h.p. . . . .	WWm
Vauxhall (other models) . . . . .	WWh
Vulcan . . . . .	WWh
Wolsley . . . . .	WWh

A complete chart for all makes of cars will be found in "FIRST AID FOR THE CAR," a copy of which we will gladly send on

★ AUSTIN, MORRIS, A.C., BUICK, CHEVROLET, VULCAN, BEARDMORE, CADILLAC ETC.



# Your Ideal Holiday Mascot

Whether you possess an old car of pre-war design or a shining new 1927 model you will find that holiday time taxes it to the utmost. Long runs and steep hills need a perfect and smooth-running engine, and the oil that gives it to you is Sternal WW—the oil supreme.

Sternal is a pedigree lubricant. Its viscosity is absolutely correct. Its blend ensures minimum

carbon deposit, and the special voltolising process to which every drop is subjected lends a liveliness to your engine which you have never experienced before.

Moreover, we guarantee that the quality of Sternal WW, purchasable at any garage, is identical with that on which 68 World's records were recently obtained at Brooklands.

★ These are just a few of the popular cars, the makers of which have officially approved Sternal WW.

# Sternal WW

## MOTOR OIL

IN FOUR GRADES: LIGHT-MEDIUM-HEAVY-EXTRA HEAVY

**Makes Engines Purr Like Pussies**

STERN LTD., 46, ROYAL LONDON HOUSE, FINSBURY SQUARE, E.C.2

"THE MOTOR ELECTRICAL MANUAL." All about the electrical equipment of your car. Price 2s. 6d. net; 2s. 9d. post free.

Now on Sale !  
ANNUAL SUMMER  
NUMBER

of

*The* **Motor**  
JUNE 28th, 1927.

*Long Distance Motoring in  
Comfort.*  
How to Feel Fresh at the End of a  
250-Mile Journey.

*1927 Continental Touring  
Developments.*  
New Routes to the Continent. New  
Regulations and Taxes.

*Continental Touring at Home.*  
Motor Touring Beyond the Seas  
Within the British Isles.

*Why not a Caravanning Holiday ?*  
An Experiment which Motorists Can  
Make upon Hiring Caravan Equip-  
ment.

*How Not to Motor.*  
Telling Illustrations of Common  
Instances of Bad Driving on Crowded  
Highways.

*London's Gyrotory Traffic Centres.*  
With Special Maps Showing How they  
Should be Negotiated.

*Recording Engine Output on the  
Road.*  
Tests which Show how Seldom a  
Car Engine is Working Hard.

*Better Driving Vision in Wet  
Weather.*  
Some Factors which Contribute  
Towards Poor Vision, which is Par-  
ticularly Bad at Night.

*Tackling Breakdowns on the Road.*  
Valuable Information About Me-  
chanical First Aid.

*What Every Woman Motorist  
Should Know.*  
By the Hon. Mrs. Victor Bruce.

PRICE 4<sup>D</sup>. AS USUAL.



Hurstonceux. ~

Offices: 5-15, Rosebery Avenue, London, E.C.1.



*As a Light Car Owner  
I know that —*

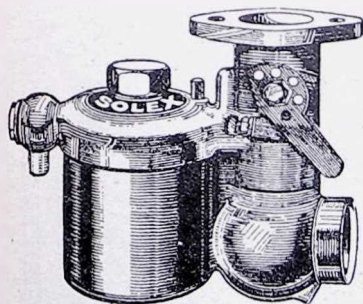
# SOLEX

THE NO-TROUBLE CARBURETTOR

will save money and give better results on any make of car. I listened to the enthusiastic comments of many "Solex" users before I sent for a "Solex" on 30 days' FREE Trial, but once fitted the difference was almost unbelievable. My advice to every Light Car Owner is to send for a "Solex" on trial—to use it once is to use it always.

## READ WHAT OTHER "SOLEX" USERS SAY:—

MORRIS: "37.5 m.p.g. against 25 m.p.g. with original carburettor."  
CLYNO: "Between 37 and 41 m.p.g. on short runs." ALVIS: "All round improvement especially in power acceleration and consumption."  
HANDS: "Improved car out of all comparison to cost of 'Solex.'"  
SINGER, 10 h.p.: "52 m.p.g. with four up." 10 h.p. LEA-FRANCIS: "More than pleased. 50 m.p.g. on long runs, 37 m.p.g. on short runs and town work"



Our new and commodious premises offer ample facilities for fitting and tuning "Solex" Carburettors.

## SOLEX LTD.

Director GORDON RICHARDS.

Solex Works, 223-231, Marylebone Road,  
LONDON, N.W.1.

Telephones: Paddington 8621, 8622, 8623, 8624,  
8625, 8626.

Telegrams: "Solexcarb, Baker, London."

**30  
DAYS FREE  
TRIAL**

Ask at your local garage or write Dept. "L.C." to-day sending particulars of your engine no matter what type it is and we will send you details of our 30 days' FREE Trial Scheme. There is no obligation to purchase and no charge for renovation.

*'fit Solex — and note the difference'*

FACILITATE BUSINESS, and ensure prompt attention to your enquiries, by mentioning "The Light Car and Cyclecar" when writing to advertisers. They will appreciate it.

Goodall Ad.



## Overheard at the Club.

"Brown seems rather pleased with himself to-night."

"Yes, this morning I bet him a fiver that he wouldn't get delivery of his new car under a month. I've been waiting for a similar model myself for longer than that already, and there seems to be no sign of it yet"

"I suppose he thinks he'll be able to get it then?"

"Thinks! he's got it already and what's more a much better allowance for his old car in part payment and 2½% lower interest charges, on a balance he didn't want to put down immediately, than I've got to pay."

"H'm. He evidently took my advice then and went to Newnhams. Man and boy I've dealt with them for over 30 years and they've never failed me yet. Operate all over the country now they tell me, have a special repurchase scheme for Overseas visitors, and a topping little book called 'Cars of Beauty' describing the facilities they offer."

"You're quite right, by Jove, and I remember Brown saying it was the pleasantest business transaction he'd ever been concerned in. I shall certainly go to them next time."

**The Newnham Motor Company, 237, 243, 245, Hammersmith Rd., London, W.6**

Phone: Riverside 4645

MAIN AGENTS for Austin, Jowett, Lea-Francis, Rover, Singer and Swift.  
Established over 30 years—it makes such a difference you know.

NO LONGER — Alms Hill, near Henley, the piece de resistance of the M.C.C. Inter-team Trial last Saturday, was, for once, in good condition and gave no trouble to the Morgan competitors. The hill had to be climbed three times in the course of the trial.

## NOTES, NEWS & GOSSIP of the WEEK

### British Stone for Roads.

In order to compete with cheap foreign stone which is being imported for roadwork in this country, new plant for crushing and grading stone is to be installed at Cranmore Quarries, Somerset.

### New £250,000 Bridge.

A new bridge over the River Usk, Newport (Mon.), which cost nearly a quarter of a million pounds to build, was opened on June 22nd. This, together with the widening of the main Newport-Cardiff road, means increased motoring facilities.

### This Week.

In an article, "The Ideal Cooling System?" the writer puts forward a novel suggestion which appears to possess distinct possibilities. Readers who like to know all about their cars will be interested in the description of the working of a storage battery, whilst our report of a road test of the latest Rhode saloon will prove informative to all those who are considering the purchase of a modern light car.

No. 760. VOL. XXX.

### ON OTHER PAGES

<b>Road Tests of 1927 Models:</b>	
The 11 h.p. Rhode Saloon ..	120
Storage Batteries and How They Work ..	122
Literary Pilgrimages ..	124
The Ideal Cooling System? ..	126
Rich Mixture ..	130
Topics of the Day ..	133
Cyclecar Comments ..	134
So That Others Understand ..	136
Our Readers' Opinions ..	13

### LIGHTING-UP TIMES (Rear Lamps) for Saturday, July 2nd.

London ..	9.48	Birmingham ..	10.1
Newcastle ..	10.16	Liverpool ..	10.28
Edinburgh ..	10.29	Bristol ..	9.58

Moon—First Quarter, July 7th.

### Air-cooled Cars.

It is interesting to note that there are now four air-cooled light cars in production on the Continent. These are the S.A.R.A., Tatra, Lafitte and Carmier. Air cooling, it would appear, is once more coming into its own—an interesting development.

### A Dangerous Curve.

A formidable double S-bend corner on the new Nürburg Ring has already been the cause of a number of accidents, and special precautions have to be taken by the police to clear spectators off the track at this point when racing is in progress.

### Growth of Motoring in U.S.A.

In the 1927 edition of *Facts and Figures in the Automobile Industry*, published in New York, it is shown that in 1895 four cars were produced and registered in America, whereas in 1926, including Canadian production, 3,936,933 cars were built and 19,237,171 were registered.

### Next Week.

Our Summer Number will be published next week; it will contain a number of specially written articles of outstanding interest to holiday-makers. Various aspects of touring will be dealt with, and we shall make some novel suggestions which will enable readers, whilst still using their cars, to avoid a more or less stereotyped motor-ing holiday.

### Marlborough Street Methods.

Mr. Mead, the Marlborough Street magistrate, stated recently that in future motor drivers ignoring summonses and the usual one week's adjournment in the event of non-attendance will have a warrant issued for their arrest.

### Instruction Books Reprinted.

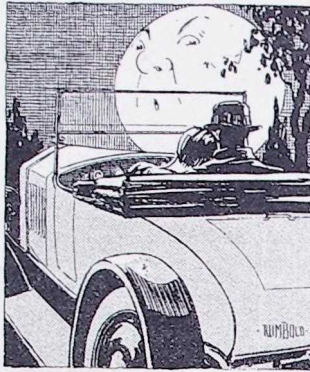
Owing to the number of requests which the Rover Co., Ltd., have received for instruction books dealing with the 8 h.p. air-cooled models, arrangements have been made to issue a new edition of the books for all 8 h.p. models, as there are approximately 20,000 of these popular cars still on the road. The books are priced at 2s. per copy, and can be obtained from the Rover Co., Ltd., Publicity Department, Coventry.

### The Grand Prix.

Intending entrants are reminded that entries for the Grand Prix of the R.A.C., which takes place at Brooklands on Saturday, October 1st, close at single fees on Monday, August 1st, at 6 p.m. The Grand Prix is one of the series of five races upon which depends the championship of the world. The entry fee is £50 and the prize money amounts to £1,500. Entry forms and full particulars of the race are obtainable from the Secretary, R.A.C., Pall Mall, London, S.W.

### The Strongest Ever.

The new Oswald Street Bridge, Glasgow, which is to be opened by the King on July 12th, is claimed to be the strongest road bridge ever built. It is a three-span structure and is built on a foundation of 14 caissons, which are sunk to a depth of 56 ft. below high-water mark. Prior to the opening ceremony the bridge will be subjected to the most severe test yet imposed upon any similar structure, when a marine boiler weighing 120 tons will be drawn across by five tractors, each weighing 15 tons.



### WEEKLY WISDOM.

See that thy love-making it be done at home, for behold, a car needeth more attention than a woman.

### Taxicabs Continue to Crawl.

Victoria Street, London, is not to be closed to taxicabs, despite frequent requests to the Minister of Transport. The Minister states that the matter was "carefully considered," but the result is that private cars will still be subjected to annoying delays in London traffic.

### Merchandise Marks Inquiry.

The inquiry of the Standing Committee (General Merchandise) appointed by the Board of Trade to decide whether rubber tyres and tubes for motorcars, motorcycles and cycles, also solid and semi-solid tyres, when imported, should bear an indication of origin will be held on Monday and Tuesday, July 11th and 12th, at 11.30 a.m. and 10.30 a.m. respectively, in Room 76 (first floor), New Public Offices, Great George Street, London, S.W.1.

### Where Is He?

We learn from Pathé Frères Cinema, Ltd., that an 11-22 h.p. Wolseley car, which was offered as the first prize in a competition promoted by Pathé Frères recently, has not been claimed by the winner, Mr. Alan Dare. He has moved from the address given on his signed entry form, and his present whereabouts is unknown.

### Accident Touts.

It was brought to light in a recent court case that certain persons and concerns make a practice of communicating with victims of street accidents and their dependents, offering to conduct claims on a commission basis, the usual rate of remuneration asked being 10 per cent. of the total proceeds. The solicitor concerned in the case in question stated that he was bringing the matter to the notice of the Public Prosecutor.



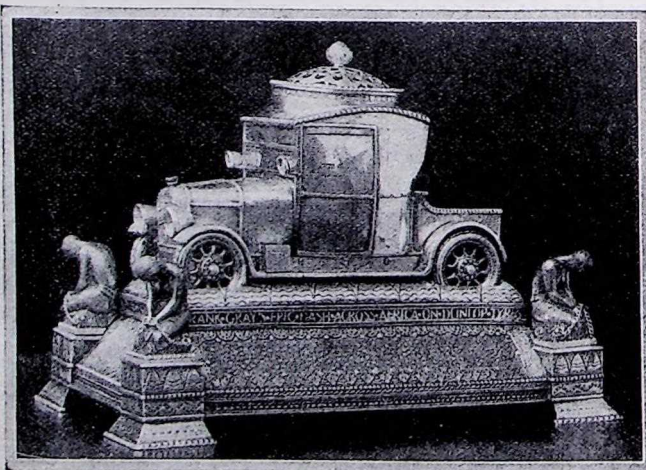
This easily read sign, erected on the Great North Road, near Ripon, is a good example of modern signposting.

### The High-speed Trial.

In connection with the recent J.C.C. High-speed Trial at Brooklands, Mr. F. H. Boyd Carpenter, driving a standard Austin Seven in Class A, claims to have finished a complete lap ahead of any other competitor in the same class.

### "Touring England."

"Touring England," by Sydney R. Jones (R. T. Batsford, Ltd., 7s. 6d. net.), should make an attractive and useful addition to any tourist's library. The book is not intended as a complete guide to England, but serves rather to indicate what is to be found in various parts of the country and how to find it. With this idea in mind, the author has divided England into five sections, and in each district four rambling routes are thoroughly described; these tours have been planned to avoid main roads so far as possible, and, being typical of their respective districts, will suggest similar routes to the reader. At the beginning of each section is a short introduction dealing with the chief characteristics of the district under consideration. The book is illustrated by a number of pleasing photographs and 50 delightful sketches by the author, whilst maps—the work of Mrs. Sydney Jones—of the tours dealt with are also included.



ACROSS  
AFRICA.

This handsome caisson was presented recently to Mr. Frank Gray by Sir George Beharrel, on behalf of the Dunlop organization, to commemorate Mr. Gray's feat of crossing Africa in a Jowett fitted with Dunlop tyres.

### A New Tyre Factory.

It is announced by Pirelli, Ltd., the well-known Continental manufacturers of tyres, that they propose shortly to start manufacturing in this country, probably in the neighbourhood of Southampton, where for some years now the manufacture of indiarubber goods of other types has been carried on by them.

### Paris-Pyrenees-Paris.

The seventh annual Paris-Pyrenees-Paris reliability trial for light cars and cyclecars will be held from July 16th to 24th. The trial is of a particularly severe nature, as the mountains have to be traversed throughout their entire length from Bayonne to Perpignan, and it includes six formidable passes. The event is organized by *Moto Revue*, and we understand that British competitors will be welcome. The entry fees are low, and full particulars may be obtained from the Secretary, *Moto Revue*, 5, Rue St. Augustin, Paris.

### Down Under.

From an Adelaide motor agent:—"The Light Car and Cyclecar seems to be becoming increasingly popular in South Australia; in fact, we find that the paper is often referred to by our customers."

#### NEXT WEEK!

THE Light Car  
AND Cyclecar

#### SUMMER NUMBER.

Increased in size, but not in price.  
ORDER NOW.

### A Sugar Salmson.

A model of a Salmson sports car in icing surmounted the wedding cake at the wedding of Mr. Ivor J. Liggs, the well-known Salmson driver and trials secretary of the Oozeum Motor Club, to Miss Rosabel Prior on June 21st.

### Royal Air Force Display.

The Royal Air Force display, the proceeds of which are in aid of R.A.F. charities, takes place to-morrow, Saturday, at Hendon. The main programme commences at 3 p.m., but the gates will open at 10 a.m., and there will be continuous flying from noon until 6.30 p.m. Many improvements have been carried out at the aerodrome for the comfort and convenience of spectators, and the provision of ample car-parking accommodation will ensure that all those who arrive by road will have no difficulty in leaving their vehicles. Incidentally the display can be watched in comfort from the car parks. The King and Queen are expected to be present and, in addition, there will be representatives of foreign Governments. The programme is thoroughly representative of the Service work of the Royal Air Force, but at the same time it has been devised to provide a series of spectacular flying events of a most thrilling character.

## THE A.A. PETITION IN PARLIAMENT.

YEARS have elapsed since a petition was so impressively presented to the House of Commons as was the monster appeal and protest which was placed before that assembly last week by the Automobile Association and an immense body of motor-tax payers (owners and drivers of motor vehicles), numbering no fewer than 360,500, on the subject of the Road Fund. The petition, which arrived on the floor of the House in 32 great bundles, was presented by Lieut.-Colonel Howard-Bury.

The bundles were carried in by attendants and deposited in front of the clerk's table, just below where the Mace rests when the House is sitting. To facilitate the task of presentation,

eleven Members, representative of all three parties, also helped to bring in the various sections of the immense document. In the course of a few days the House will be engaged in discussing the Chancellor's ill-timed raid upon the Road Fund, and the presentation of the petition, which was witnessed by a very large gathering of Members, must have left an impression which will not be forgotten.

The prayer of the petition was in the following terms:—(1) "That the proceeds of motor taxation now remaining in the Road Fund, and the motor taxes hereafter to be levied, may be applied to road purposes only." (2) "That if, in the opinion of this House, the sums now raised by motor taxation

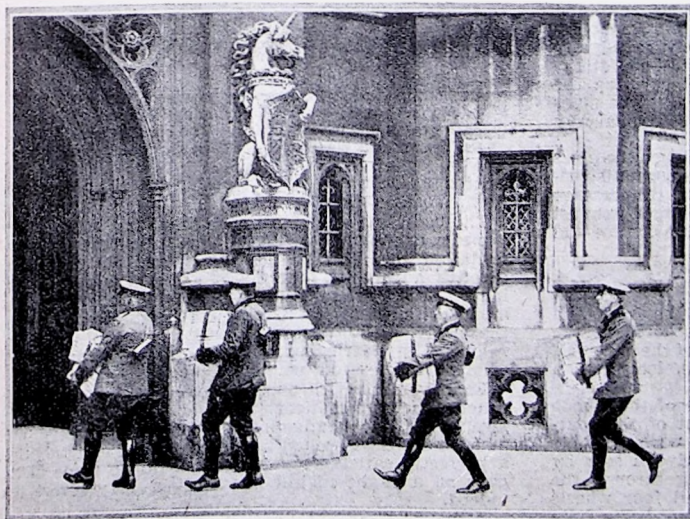
exceed the amount required for road purposes, the existing scale of motor licence duties may be reduced." (3) "That, in any rearrangement of Government Offices, a Roads Department, with a representative in Parliament, may be maintained as a distinct and separate branch of the Administration for the purpose of providing and maintaining roads suitable and sufficient for the rapidly increasing requirements of modern road traffic."

In the course of the debate on the Road Fund, which will take place on the Committee stage of the Finance Bill (greatly delayed this session on account of the Trades Dispute Bill), the opportunity will be taken by Members on the Ministerial benches, as well as by Liberal and Labour Members, to direct some straight talk to the Chancellor of the Exchequer. He will be reminded again that the motor taxation which built up the Road Fund was levied from the first on the distinct and explicit understanding that the proceeds were to be exclusively applied to the roads, and that to devote part of it to other purposes is a breach of faith.

Attention was drawn by Mr. Thurtle to a danger which besets the ordinary motorist on the principal roads because of the fact that the drivers of some of the ponderous commercial motor vehicles are sometimes required to be on duty, in the event of long journeys, more than twelve hours a day. This, he asserted, was quite a common practice. At night, especially, such vehicles when driven by men exhausted by long spells of duty would be a danger to the other traffic.

The Minister of Transport admitted that the kind of thing to which Mr. Thurtle referred does take place "on occasions," and if an accident occurred it would be taken into consideration, but he did not appear to be willing to take any special steps to prevent the drivers being on long spells of duty. He added, "If you are legislating for the hours during which a man can drive a motor on the road, you cannot confine it to commercial vehicles only."

113



### A WEIGHTY ARGUMENT.

Signed by over 360,000 car owners and drivers the Automobile Association's protest against the Road Fund raid was delivered to the House of Commons last week by A.A. scouts.

Road Tests of 1927 Models.

## THE NEW 11 H.P. RHODE SALOON

MODIFIED ENGINE WITH TWO EXHAUST  
OUTLETS TO GIVE LOWER WORKING TEM-  
PERATURE—REAR SPRINGS INCREASED IN  
LENGTH—COMFORTABLE BODY PROVIDING  
AMPLE LEG ROOM.

**I**MEDIATELY before the last Olympia Motor Show the Rhode Motor Co. introduced a new 11 h.p. engine with overhead valves operated by push-rods, which superseded the overhead-camshaft engine previously marketed by this concern. The reason for the alteration was to obtain a more silent engine, easier to manufacture and keep in tune. These objects have been attained without sacrificing in any way the road performance.

Now, coincident with the introduction of a new saloon, certain further modifications have been made to the chassis. The engine retains the same bore and stroke—i.e., 66 mm. and 90 mm. (capacity 1,232 c.c.)—but the exhaust system has been entirely redesigned. There are now two outlets from the head—one at the front and one at the rear—each outlet carrying the exhaust gases from one pair of cylinders. The pipes run into a common silencer mounted in the normal way at the rear of the chassis.

Whilst it is not claimed that this arrangement gives any additional advantage so far as power output is concerned, it is thought that a lower working temperature throughout the cycle, consequent upon larger exhaust passages, assists materially in maintenance of tune and power under severe conditions.

### Longer Rear Springs.

Alterations have been made to both the front and rear springs, the former now being anchored at the front and shackled at the rear (instead of the reverse), and the rear springs are some 2½ ins. longer than previously.

An interesting and convenient feature of the Rhode design is to be found in the adjustment of the four-wheel brakes which can be carried out, whilst the car is in motion if necessary, from the driver's seat by means of a small handwheel projecting through the floorboards. The foot brake acts on all four wheels through the medium of cables, the control being fully compensated.

Cables are used also for the hand brake which is independently adjustable by means of a hand wheel similar to that which adjusts the foot brakes and

Without in the least suggesting heaviness, the new Rhode saloon has a solid and roadworthy appearance. The luggage grid is a standard fitting. The comfort provided by the rear seat is clearly depicted in the lower photograph.

located adjacent to it. In action all the brakes are very smooth and powerful.

The body has squarish lines with a flat roof. There is plenty of room, however, both so far as seating accommodation goes and for getting in and out of the car through any of its four doors. The pedals and steering controls fall naturally to the hands and feet; a minor criticism of the driving position, however, is that the clutch pedal protrudes rather too far above the ramp. The steering proved to be accurate and devoid of any tendency to "wander" even on rough roads.

Engine-starting throughout our test proved to be practically instantaneous—and without the aid of a strangler. The single-plate clutch worked very well and the drive was taken up so evenly and certainly that a perfectly satisfactory restart could be made in top gear on a slight up-hill gradient—a very severe test indeed.

Although the gear lever was inclined to be a little out of the reach of the driver unless he leaned forward, the movement was positive and light. If one speeded up the engine a fair amount on the indirect ratios, rather long waits had to be made in neutral

when changing up. Incidentally, it might be mentioned here that the maximum speeds on the first and second ratios were found to be approximately 19 m.p.h. and 30 m.p.h. respectively.

Unfortunately the speedometer was not working and we had to take the speed indicated by the speedometer of another vehicle running alongside the car; thus there may be slight errors of 1 m.p.h. or perhaps 2 m.p.h. in the results obtained.

On the open road, 47 m.p.h. was found to be well within the capabilities of the engine. There was no noticeable period, and the car accelerated reasonably well from quite low speeds up to its maximum.

Main-road hills can be climbed without having to change down providing the speed at the foot of the incline is not too low. Part of our test consisted in taking the car off the main road and trying it up some of the steepish gradients in the Midlands. Stone-

leigh Hill, for instance, on the Coventry-Leamington road, was climbed. It is approached by a sharp turn at the foot, from where the gradient gradually increases in severity to about 1 in 8.9. The car would not quite reach the summit in top gear no matter how fast the corner at the bottom was taken. Nevertheless its performance compared very well with similar cars to the Rhode which we have tested on the same hill. On second gear, we should say the speed over the summit would be approximately 25 m.p.h.

Before the R.A.C. restrictions regarding trials came into vogue, Rhode cars always performed well in competitions. The models used then had the overhead-camshaft type of engine fitted, but from the performance—on competition courses—of this new saloon, the old characteristics of the previous model have not been lost.

With the exception of a slight tendency to roll if corners are taken sharply, the car handles very well indeed, and with a good steering lock sharp turns in narrow lanes can be taken quite comfortably. Hills of the 1 in 5 or 1 in 6 order, of course, demand bottom gear.

The equipment is complete in all essentials, a clock, speedometer, windscreen wiper, electric horn, dash lamp, interior light, rear blind and luggage grid being included in the price of £259 10s.



(Above) The off side of the new Rhode engine is similar in general arrangement to the previous model. (Right) The two exhaust pipes, each connected to one pair of cylinders, are on the near side of the engine; they lead to a common silencer. This view shows also the dynamo and magneto mounting and the oil-filler spout forward of the cylinder block.

## WATER IN THE OILING SYSTEM.

**A** LEAKAGE of water from the cooling system to the sump, even if the leak be minute, is most likely to produce serious consequences; the detection of the trouble, however, is by no means simple, and quite a considerable quantity of water may drain through and do untold harm to the bearings before it can be detected.

It is not at all usual for an engine to leak oil from its sump in alarming quantities, but some small decrease in the level of the lubricant is generally to be detected after a few hundred miles' usage of a car. If the oil always appears to be at a constant level in the sump, and if the unsatisfactory running of the engine has given cause to suspect the presence of foreign matter with the lubricant, it should at once be drained into a clean container. In all probability it will then be found that there is quite a considerable quantity of water (with rust in suspension) upon which the lubricant is floating.

During ordinary running the water has slowly leaked through a faulty cylinder-head gasket—probably—and has taken the place of the lubricant; the oil, being the lighter fluid, floats on the top of the water and causes the oil consumption to appear abnormally low.

Should, on inspection, the fault be traced to a cracked cylinder or leaking water-pump gland, imme-

diately steps must be taken to effect a cure. If the source of trouble is a badly fitted cylinder-head gasket, there is always the possibility that the leak, serious when the engine is cold, may become negligible when heat causes the joint to expand. In any case, it is advisable to make absolutely sure that the nuts holding down the cylinder head are tight.

A further test for water leakage may be simply applied. The radiator cap should be unscrewed and the engine turned over slowly by hand; if the cylinder-head gasket is leaking, air will be forced out of the cylinders during the compression stroke and a number of minute bubbles will rise to the surface of the cooling water at the filler orifice. This is a sure sign that during the intake strokes small quantities of water will be drawn into the cylinders and will eventually drain past the rings into the sump. There the harmful work is completed by slow rusting and corrosion of the crankshaft journals.

If for any reason it is suspected that slow water leakage has existed for some considerable time (as, for instance, when the car is stored in the garage during the winter months), the wise precaution should be taken of dismantling the sump and main crankshaft bearings to remedy the fault and prevent further damage.

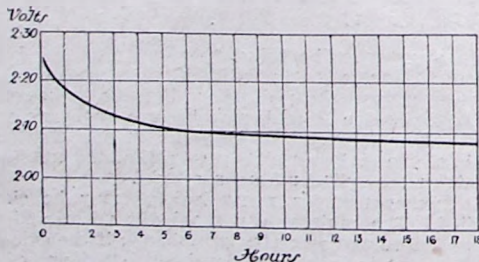
## STORAGE BATTERIES AND HOW THEY WORK.

A SIMPLE EXPLANATION OF THE PRINCIPLES OF A LITTLE-UNDERSTOOD PART OF THE CAR—HOW CURRENT IS "STORED"—THE CHEMICAL ACTION DURING CHARGE AND DISCHARGE.

THE accumulator is still the heart of the electrical equipment of a car, but because its working is a chemical action, and not a mechanical one which can be seen in operation, it is still very much of a mystery to many people. As there is a dynamo beneath the bonnet which is capable of providing sufficient current for lighting, and operating the horn and other electrical gadgets, it is not at first obvious why a battery should be necessary.

It should be realized at the outset that a car battery does not generate electric current entirely by its own effort, as does the primary type of battery used for working electric bells and lamps. It is a *storage* battery which, in effect, is capable of storing the current generated by the dynamo and of releasing it when required. In this storing and releasing process there is, of course, some small amount of energy lost; the dynamo is thus constructed to generate always slightly more current than is needed for lighting, starting and so forth.

It is very generally thought that an accumulator stores *electricity*, the real truth being that whereas electricity is charged into the battery and discharged out of it, the actual energy stored is chemical and not electrical energy. When placed on charge, the chemicals on the sets of internal plates undergo a change, and this changed form is retained until the charging current is removed and the battery is placed on discharge. A complete reversal of chemical action then takes place and electricity is reproduced, almost the same quantity being given out as originally put in by the dynamo.



During normal discharge the voltage of a battery quickly drops to a value which remains fairly constant until the cells are totally discharged.

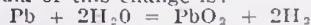
Car batteries, generally, are of two types—the Planté, rarely used at the present time, and the Faure, the popular lead-plate and sulphuric-acid type known to all motorists.

Battery plates are made, in most cases, of cast-lead, which is hardened by the addition of a little antimony in the composition and each plate is constructed in the form of a grid-like network. This network takes no real part in the action of the accumulator, hence it is made as light, and with as small an area, as the need for strength will permit. Into the framework is

pressed a paste consisting of red lead (lead oxide) in one set and litharge in the other. Numbers of sets of plates are used in parallel to increase the "holding capacity" of the battery, the litharge group being negative (electrically speaking) and the lead oxide plates positive.

The complete plate block is held in a solution of sulphuric acid, contained in a strong case ribbed to hold the plates in position. Terminal blocks are attached to the connecting bars of the positive and negative sets of plates, and an acid-resisting cover is fitted to the complete battery. Actually, the constructional details present considerable difficulties to the manufacturers, and it will be seen later how the various troubles are overcome.

When the car dynamo is placed in action, the following change takes place in the battery:—The lead in the positive plates is changed by the action into lead *peroxide*, with the result that acid is discharged from the surface of the plates into which it has soaked. The chemical formula of this change is:—



During the process the material on the negative plates is reduced to spongy metallic lead.

When the battery is connected up to the lamps, to the starter motor, or to any other circuit demanding current, the exact reverse of the foregoing occurs. The lead on the positive plates loses its added oxygen molecule, reverting to pure lead oxide, and the negative-plate active material changes from spongy lead to lead sulphate.

### Constructional Details.

Electric energy is generated in the change-over of the elements, but not without imposing certain mechanical loads upon the battery plates. In consequence, the first difficulty that the battery manufacturers have to overcome is the tendency of the active material to break away from the network in which it is retained. Innumerable patents have been taken out to cover new designs of grids, for which it is claimed that they are capable of retaining completely the paste during the changing chemical action.

It will be realized that the expansion of the paste (during charge) and the following contraction (during discharge) makes the retention of the material a rather difficult matter. Obviously the grids must not be made too large in area, or the amount of active material which can be pressed into the interstices will be reduced. There is the added difficulty that the grids must not only hold the paste but must also make good electrical contact with it.

Care has to be taken that the complete positive and negative sets of plates are firmly attached to the connecting bars. Usually the lugs, as they are called, are "burnt" on by powerful hydrogen burners, thus forming the plates and the connecting bars into what is, in effect, one solid casting.

Connecting terminals are attached to the lugs in a similar manner, it being necessary to use particularly

massive connecting points, owing to the extremely high momentary current demanded by the starter motor. The type of terminal generally used is a conical socket and clamp, giving a large area of contact, into which a lead plug in the end of the battery lead is fitted.

It is essential that the positive and negative plates should be separated to allow free circulation of the acid and to prevent material which may fall out from the grids from bridging the gap between the opposite sets.

Current can be taken from the inside of a battery equally as from the outside, and if much loose paste were to remain touching positive and negative sets a "short-circuit" would be set up which would quickly reduce the stored-up energy.

In some batteries the ribs cast on the inside of the containers are relied upon to keep the plates in position. In others, perforated strips of celluloid or ebonite, or packings of woven glass or rubber, are pressed between the plates. Wood separators are also used by many manufacturers, the material being treated by a preliminary boiling in alkaline solution.

### Container Materials.

Containers are of various materials and take various forms, according to the capacity of the battery and the type of car on which it is to be used. Celluloid is sometimes used for lighting batteries, despite its many disadvantages, but ebonite or similar rubber-composition material is most generally employed for heavy-duty batteries. This latter material has the great advantage that it can readily be moulded or pressed into any required form, spacing strips for the plates being easily formed internally.

The electrolyte—diluted sulphuric acid—which plays the most important part in the chemical action, is a mixture of, roughly, five parts of pure brimstone sulphuric acid with 21 parts of distilled water. Instructions given by the makers of the battery should be carefully followed when refilling with new electrolyte.

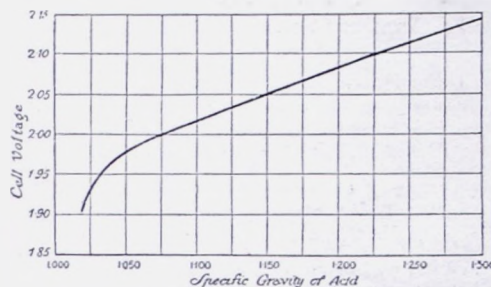
It will be obvious that damage can easily be caused to the plates by excessive discharging, when the paste will shrink away from the grids, and by the expansion which follows excessive charging. In extreme cases the greater portion of the active material can be expelled from the network holding the paste; excessive discharge is more likely to cause the plates to buckle and short internally.

The control of the charging and discharging rates is largely out of the hands of the car owner. He relies upon the manufacturer to fit a battery which will be large enough to store energy for all ordinary conditions and to provide a dynamo which will keep the battery well supplied with current.

Nevertheless, to ensure that the battery shall always

be working at its best, a little care should be taken in the regulation of the time given to "charge" and "discharge" during the use of the electrical equipment. The dynamo fitted to an average modern car is capable of supplying far more energy than is ever expended during ordinary running, and if a little care be not given to the charging period there is a distinct likelihood that the battery will be overcharged during the major portion of its life. No adverse effects will be noticed at first, but buckling of the plates, waste of active material and splitting of the container may all result from overcharging during a long period.

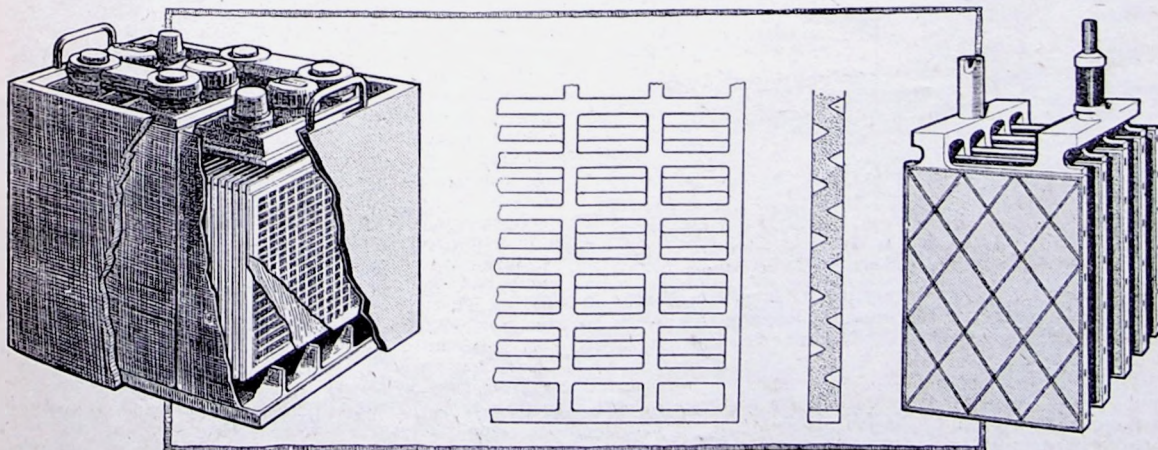
Conversely, the dynamo should be kept in perfect order by fairly frequent overhaul and inspection, so that there is negligible risk of failure of the current supply and consequent over-discharging of the battery.



This graph shows that there is a definite relation between the strength of the acid and the voltage of a cell.

A feature of an accumulator which makes it particularly suitable for use on a car is that the output voltage remains almost constant over a wide range of discharge. When the battery is taken off charge it may register a voltage of as much as 2.25 volts, but this figure quickly drops to about 2.1 on open circuit, and remains so until the cell is practically exhausted. An even output voltage is absolutely necessary if lighting is to be satisfactory and of constant brilliance and if the starter motor is always to work with unflinching energy.

There is a distinct relation between the voltage of a cell and the specific gravity of the acid which it contains, and advantage is sometimes taken of this to check the voltage with the aid of an hydrometer, an instrument designed to measure the specific gravity of a liquid. In use a quantity of the acid is drawn up into the bulb of the hydrometer, and the position of two small, weighted beads on a graduated float gives an indication of the amount of "charge" still remaining in the cell.



A CAR BATTERY  
DISMANTLED.

On the left is shown a typical battery partly cut away, exposing the interior of the container. In the centre is a section of a plate grid, while a complete plate assembly is shown on the right. Positive and negative sets of plates are kept separated by insulating material.

ALTHOUGH Yorkshire may not claim so many interesting literary associations as Hardy's Dorsetshire and other corners of Britain, yet there are certain parts that are noteworthy, and when touring the County of Broad Acres we should not fail to include these districts in our itineraries. There is one region, at least, which is more than ordinarily attractive and which is easily accessible by motor, namely, the Brontë country.

All of us who have read the remarkable works of the Brontë sisters and who may be visiting that part of Yorkshire should be drawn irresistibly to the wild moorlands and the little grey Yorkshire village of Haworth. Here are the scenes that gave the trio of writers such wonderful inspiration and which form the background, as it were, of their novels.

The Haworth moors are easily reached from Keighley, Bradford or Leeds. Although so comparatively near to these large and thickly-populated centres, the little stretch of moorland is still unspoiled, and is pretty much the same to-day as when the Brontë girls found such pleasure there. Here is a wild, hilly region, wind-swept and forlorn in winter, but glowing with radiance and colour when the summer sun lights up the scene.

Annie Brontë, in the pages of her book, "The Tenant of Wildfell Hall," gives a charming word-picture of the surroundings near Wildfell—

... the wildest and loftiest eminence in our neighbourhood, where, as you ascend, the hedges as well as the trees become scanty and stunted, the former, at length, giving place to rough stone fences, partly greened over with ivy and moss, the latter to larches and Scotch fir trees or isolated blackthorns.

The fields, being rough and stony, and wholly unfit for the plough, were mostly devoted to the pasturing of sheep and cattle; the soil was thin and poor; bits of grey rock peeped out from grassy hillocks; bilberry plants and heather—relics of more savage wildness—grew under the walls; and in many enclosures rag-weeds and rushes usurped supremacy over the scanty herbage.

These views of the typical moorland scenery recall memories of the famous literary sisters Brontë, whose home at Haworth stands in the midst of the rugged beauties of the County of Broad Acres. Other well-known authors, including Dickens and Scott, became infected with a love, which they weaved into their works, for these fascinating, wild surroundings.

# LITERARY PILGRIMAGES

A Tour in a County of such Beauty  
and so Rich in Interesting Literary

All the district immediately above Haworth seems to be associated with the literary sisters; just the kind of atmosphere in which anyone steeped in the literature of the Brontës will revel. The busy outer world seems very remote in this district where "Wuthering Heights" was born. These rugged, bleak moors dotted with farmsteads are reminiscent of Emily, the sister of whom Charlotte writes:—

Emily's native hills were far more to her than a spectacle, they were what she lived by as much as the wild birds their tenants, or as the heather their produce. My sister loved the moors. Flowers brighter than the rose bloomed in the blackest of the heath for her; out of a sullen hollow in a livid hillside her mind could make an Eden.

# in YORKSAIRE

## —Associations should be the Aim of Every Book-loving Motorist.

To a secluded ravine, where a tiny stream comes clattering down the rocks—Charlotte Brontë's waterfall—the sisters used to bring their writing materials and pursued their literary work amid the songs of skylarks and linnets and the piping of peewits.

Yorkshire would have exceptional claims on the literary man or woman with a car had no other pens than those wielded so talentedly by the sisters Brontë immortalized its wild moors and rugged heights. But Halliwell Sutcliffe has also added to the attractions of these regions, for he, too, has lived in the neighbourhood, and the bleak uplands are the scene of many a thrilling romance from his pen. The village life is charmingly portrayed in his "Arcady" books.

Then we find parts of Yorkshire that boast of con-

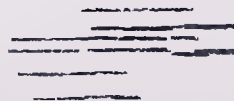
nections with that great master of literature, Charles Dickens. To the bleak uplands of North Yorkshire Dickens travelled in order to investigate the manner in which certain private academies were conducted. The course of his travels took him to the straggling village of Bowes, situated in a region crammed with literary interest, and once an ancient Roman station.

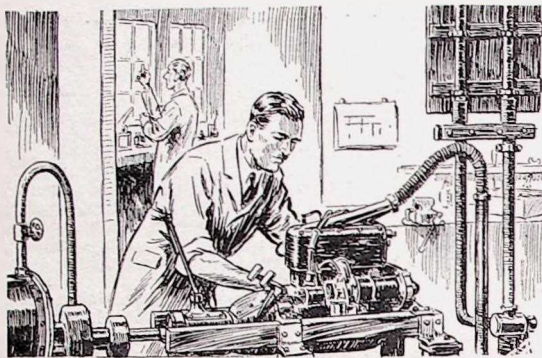
Bowes is of particular interest owing to the fact that it was here there stood the famous—or infamous—Dotheboys Hall, some portion of the original building still remaining. Nicholas Nickleby saw Dotheboys as a "long, cold-looking house, one storey high, with a few straggling out-buildings behind and a barn and stable adjoining." As one sees the village of Bowes on a beautiful summer's day it is a very pleasant place; but Dickens's hero saw it under sorrier conditions, and he felt a "depression of heart and spirit which he had never experienced before." Charles Dickens visited and stayed in Bowes, and his association with this place has given it a glamour and romance that lifts it out of the common ruck.

The scenery described in Sir Walter Scott's "Rokeby" lies within a few miles of Bowes, and should be included in the itinerary when in the district. The poem opens at Barnard Castle, a quaint old-world town just over the Durham border. The view from "proud Barnard's banner'd walls" is superb and might rank among the fairest in England.

All of this district around Bowes and Barnard Castle is rich in scenery of a most picturesque and romantic kind, and teems with literary associations. Dickens and Scott—two names that ring on the ear in immortal tones—invested the district of Teesdale with glory and gave it an attraction that brings many visitors to share in its charms. A.S.

The top photograph was taken on the Stainforth-Arncliffe road and gives a fine impression of the bleak, rolling hills. The view of Halton, on the left, shows the chequer-board effect produced by the use of stone walls, a form of boundary marking much utilized in the hilly districts. (Below) Cross-roads at Kettlewell, a village in an exceptionally picturesque setting.





## THE IDEAL COOLING SYSTEM?

ALL OF THE KNOWN COOLING  
SYSTEMS SUFFER FROM INHER-  
ENT DRAWBACKS. WILL  
COOLING BY STEAM SOLVE THE  
PROBLEM?

IF the ideal engine could be constructed, cooling systems would at once become superfluous and go out of business. It is really a heart-breaking thought for the ardent light car enthusiast when he remembers that for every unit of power delivered at the wheels another is dissipated in the form of heat at the radiator, whilst nearly two more disappear in a similar manner via the exhaust. But he has to pay for all four. Yet, given the engine as it is—and that, it must be conceded, is considerably more efficient than it was twenty, or even ten, years ago—a cooling system there must be. What form shall this take?

Confining our attention for the moment to water-cooling as now employed universally on small cars with very few exceptions, what do we find. There is nothing that differs materially from the practice of 20 or 30 years ago. Essentially the cooling equipment consists of a jacket around the hot parts of the cylinder, connected by means of pipes with a radiator in such a way that circulation of the water inside is maintained either by means of natural convection currents or by means of a pump.

Water is still the medium; water, we are told, has the highest specific heat of any known liquid, and so is not likely to be improved upon. Water, argues the practical motorist, at any rate costs nothing, and so why grumble at it? Let us, says everybody, stick to our old friend water.

On the subject of whether or not water is likely to remain, we shall have more to say later, but it is expedient here and now to call attention to some of the more obvious defects of water-cooling systems, in the form in which they have been with us from the earliest days of motoring—a legacy, in fact, of stationary engine practice.

### Defects of Water.

Water, we have already seen, has an exceptionally high specific heat. This really means that to raise a given weight of water—it may be a radiator full or a thimbleful—through a given rise in temperature, a larger quantity of heat is required than would be necessary to produce the same results with another liquid—say mercury or alcohol.

Thus, says the champion of water, if you do away with water and substitute some non-freezing or other liquid, up will go the weight of the cooling equipment. This is true enough. But by this very virtue of requiring large quantities of heat to raise its temperature, a snag is introduced. It is well known that the petrol engine will not work satisfactorily or efficiently until it has been warmed up to a certain temperature.

With the exact limits of this temperature we are not immediately concerned here, but the fact is one with which every owner of a light car must be familiar. This necessity for taking easily the first two or three miles on leaving the garage is one of the greatest bugbears of water-cooling as we now have it. By way of contrast, two or three hundred yards suffice to warm up the average air-cooled engine,

The owner of a water-cooled light car who religiously observes the dictum to take the first few miles steadily loses time and tries his patience, but he who insists on driving with his foot hard down before the engine has had time properly to warm up pays for his impatience in the form of frequent and heavy repair bills. Even on the best-designed engine oil cannot find its way everywhere until it is warm and fluid.

An equally glaring defect to the time taken to warm up the conventional water-cooling system is the rapidity with which it cools off. Even with pump circulation and radiator shutters, circulation continues all the while the car is standing, and rapid cooling results.

### Aiming at the Ideal.

Any definitely fixed temperature of engine operation is quite out of the question with water-cooling as we now have it. There is a difference in atmospheric temperature of some 60 degrees Fahr. between summer and winter even in this temperate climate. This means that the temperature gradient, and so the rate at which heat is dissipated, varies considerably. An engine, then, if left to itself, runs 50 degrees or so hotter in summer than in winter. The light car owner does his best by using different grades of oil, radiator shutters, thermostats, and so forth, to maintain ideal conditions, but such expedients are at the best clumsy and unsatisfactory makeshifts. What is wanted is an engine that will reach its normal working temperature in a few minutes—winter or summer—and will stay there, travelling up hill or down, driven hard or gently. It would not appear that so long as the time-honoured and conventional water-cooling system lasts this ideal is likely to be attained.

The only alternative cooling systems that have so far been given much practical trial are air-cooling and oil-cooling. The former of these is as old as the petrol engine itself and is standard motorcycle practice. Although in this country air-cooling has been confined almost entirely to small engines—10 h.p. and under—there would appear to be no practical—as distinct from commercial—reason why it should not be used successfully on car engines of any size, as is done on the big American Franklin six-cylindered car.

Air-cooling gets rid at once of two of the greatest bugbears of water-cooling. It gives rapid warming up and it eliminates the freezing danger. It does nothing, however, to ensure a steady running temperature—a most important desideratum—and it introduces certain drawbacks that water-cooling does not. Principal among these are excessive noise, owing to the absence of a water-jacket to muffle metallic noises coming from the moving parts of the engine and the dangers of overheating. There is, of course, no reason why a properly designed air-cooled engine should overheat, but, unlike the engine that is water-cooled, there is no clear danger signal, like boiling, to warn the driver that there is something amiss before lubrication failure occurs and damage results.

Oil-cooling has been applied only to a very limited extent, although quite successfully. In most cases it has been used in conjunction with direct air-cooling of the hottest parts of the cylinder head. Our remarks on air-cooling apply equally to it.

Of recent years, however, a novel system of cooling has been developed whereby it should be possible to approach closely to the ideal. This is cooling by steam, the great advantage of which is that a practically constant temperature can be maintained under all running and climatic conditions. To cool by means of boiling water may seem, at first, somewhat paradoxical. A little reflection, however, will make it clear that the terms hot and cold are purely relative. To the hand that has just been removed from ice-cold water, tap-water feels warm, while to the hand that has just been taken out of hot water the same tap-water feels almost icy.

The maximum temperature of the burning gases inside the cylinder of a small car may be so high as 1,500 degrees C., whilst the normal operating temperature of an exhaust valve is around 400 degrees C. Boiling water at 100 degrees C. is an efficient cooling medium—far more so, in fact, than warm water, say, 50 degrees C., for a reason that will be explained.

### Steam-cooling.

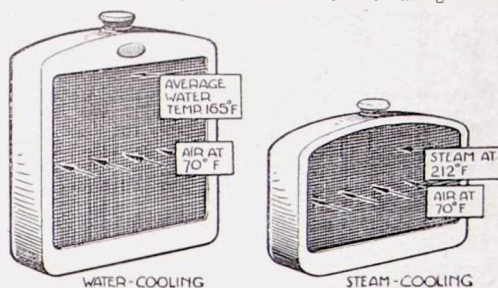
In the Rushmore steam-cooling system, which is of American origin, the cylinders are surrounded by a jacket not unlike those now in use, but this jacket, instead of being completely filled with water, is filled only sufficiently to cover the cylinder heads, there being some considerable free space above. The upper outlet is above water level, so that water circulation cannot take place. Ebullition, then, occurs after the engine has run for a very short while, so that the temperature has to remain constant at 100 degrees C. so long as there is boiling water present. This is an important point; practically the only factor affecting this temperature, and that very slightly, is barometric pressure. At very high altitudes the temperature drops a few degrees, but variations of atmospheric temperature are without effect.

Steam—not water—passes to the radiator, and a small pump returns the condensed water to the jacket. The radiator is of ample size to take care of all the steam delivered to it, so that as the steam is condensed almost instantaneously no rises in pressure in the system take place normally and none of the water is lost—an important consideration if developments along the line of using liquids other than water, so as to avoid danger from freezing, are to take place.

And yet, despite the need for a radiator of ample size, the radiator can, in practice, be considerably smaller than that used in the conventional system,

simply because of the high temperature of the steam, which gives, of course, a much sharper temperature gradient, resulting in the more rapid dissipation of heat.

It has been noted already that water is a desirable medium on account of its high specific heat. This, in the conventional cooling system, is an important point, as the water is used simply as a reservoir for heat, which it takes up from the cylinder walls and gives up, via the radiator, to the air. But when using water



A small radiator can be used with steam-cooling on account of the high temperature which results in more rapid dissipation of heat.

in a steam-cooling system, a new and very important physical characteristic comes into play, and that is the heat absorbed in the actual process of boiling—i.e., of expanding the water—forcing its molecules apart, so as to turn it into steam.

To raise the temperature of 1 lb. of water through 1 degree, under standard conditions, 1 B.Th.U. is required. Let us think for the moment of that degree being from 211 degrees Fahr. to 212 degrees Fahr. Now let us try to raise the temperature one more degree. Impossible, of course, for the water is boiling. That is the important point—to boil that 1 lb. of water—to convert the whole of it to steam—nearly one thousand times the quantity of heat is required that was needed to raise its temperature one degree.

This fact is all in favour of steam-cooling; it means just this—that a mere fraction of the water now carried suffices. This fact, together with the reduced size of the radiator, makes possible a great saving in weight and bulk.

Another point in favour of steam-cooling is this. Just as owing to the stagnant state of the water in the cylinder jacket the temperature rises rapidly when starting up from cold, so, when the engine is left standing when hot, cooling is proportionately slow. Everything about the design of the system tends rapidly to establish a steady temperature under all conditions.

Reports of practical tests of the Rushmore cooling system that have reached this country have so far been scant, but everything about it points to its holding out considerable promise of becoming the ideal system for light car work in this country.

TEMPERATURE RISE  
211°F. TO 212°F.

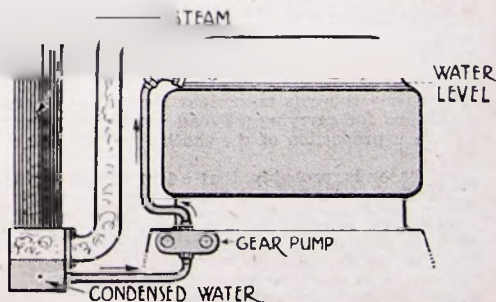
1 lb. WATER CONVERTED  
TO STEAM AT 212°F.

1 lb. WATER

HEAT EXPENDED  
1 B. Th. U.

HEAT EXPENDED  
966 B. Th. U.

(Above) Many times the heat needed to convert 1 lb. of water to steam is required to raise its temperature 1 degree F., or even to bring it up to boiling point.  
(Right) Steam-cooling (Rushmore system). Note the small diameter of the water-return pipe.





## A COUNTERBLAST TO "FOCUS"

"MARMARDUKE" REPLIES TO LAST WEEK'S CRITICISM OF HIS ARTICLE "WHAT OF 1928?" WHICH APPEARED ON JUNE 17th.

BEFORE beginning a reply to "Focus's" criticism of my article "What of 1928?" I should like to warn that particular sub-editor, whose concluding remark about my person was so complimentary, that my tame gunman has been despatched to watch the offices of *The Light Car and Cyclecar*. He has instructions to perforate good and plenty the most objectionable-looking person entering those portals. I hope he gets the right one first time, but if not he can but try again, and if the whole staff is wiped out—well, I didn't start the feud.

Now, "Focus," my first advice is to get another "Watson," for your present one is suffering from senile decay. Worse still, he does not even read *The Light Car and Cyclecar*, or he would have known from my article "Looking After the Essentials," published no more than three weeks ago, that I do both oil and grease my own car. Yes, "Focus," you want a new sleuthhound—pronto.

I quite agree with what you say about there being too many points to oil and grease, but I'm afraid I look on them as being a necessary evil at present, there being as yet no sign of the millennium. A whole issue would have been needed to criticise everything I didn't like, and so only those were included which seemed to me most objectionable.

I do regard tyre troubles as inevitable. My 11.9 h.p. car has 29 by 4.95 balloons, which are, surely, big enough? Yet long before the tread was worn off I was continually cursed with punctures, nine out of ten being caused by flat-headed boot nails. A good, fat tread defeats them, for the shanks are not very long. Nowadays, directly my tyres get worn down, say at about 6,000 miles, off they go to the Ondura Rubber Co., Keighley, where a heavy tread, costing 37s., is fitted, which will scotch the puncture fiend for some time.

My condemnation of four-wheel brakes is not based on the deficiencies of one make of car. What about the recent letter from "Dunn-Browne"? His car and mine are not of the same make, and I know of at least one other case of similar trouble in yet a third make.

Of course, for people like the owner of the Singer 10 you mention, who had detected nothing wrong with his brakes in 4,000 miles, although one was not acting at all, micrometer adjustment would be a needless extravagance. But surely even the average "ordinary

common or garden sort of owner-driver"—(I'll tell my assassin to make it a nice, slow, lingering end for that, Mr. Sub-Editor)—is not such a dull, unimaginative lout as that, "Focus"? Your friend should swap his car for a pram, and, in spite of what you say, I still persist that the proper adjustment of four-wheel brakes is too complicated for 80 per cent. of car owners.

You rail at me for demanding improvements which will increase the price of cars, and then go one better in saying that the "openable" saloon is what is wanted. Surely a "closable" tourer ought to be possible at a good deal less money than the former, which has also the disadvantage of looking, with its framework always in position, like a lorry minus the tilt.

Some of the improvements you ask for in your concluding paragraph leave me quite cold, which only goes to show how opinions vary. I will take them in detail.

Shackles which need no lubrication; very nice.

Rear petrol tank with vacuum feed. I have no fault to find with the gravity-fed front tank. It "works," and is a great deal less likely to give trouble than the other.

Pressure-fed big-ends. Good, but my present car has them.

Larger batteries. I haven't touched my starting handle for 7,000 miles (touching wood). Surely a 12-volt Lucas is ample? If it is not, doesn't the magneto or carburetter need attention, or the brand of oil want changing to something less sticky?

Thermostat water control. I had it fitted to my present car, which is rather overcooled, and the improvement was nil. Possibly this particular gadget was a "dud," although it was made by a very well-known firm?

Ground pinions in gearbox; very nice.

Dewandre servo-braking; very nice, but not really necessary for a he-man.

While I am about it I may as well reply to the letter from C. H. G. Ross in the same issue. I know the car he mentions quite well and have nothing against it except that a car with a "ceiling" of 45-47 m.p.h. is no use to me, as Mr. Ross might have gleaned had he read more carefully the article "What of 1928?" and others I have written. As to his remarks about cost, my present car is listed at nearly £100 more than the one he owns, so that point does not come into the question at all.

## THE ADVANTAGES OF SIX WHEELS.

FOR a number of years advanced designers have been trying to improve upon ordinary leaf springs as a means of supporting the load in a car. Volute springs, pneumatic cylinders and many other devices have been suggested, but not one has achieved the distinction of adoption on a large scale, and at the present time there is no serious rival to leaf springs as a means for carrying the load without transmitting too high a proportion of the shocks incidental to road travel.

The reason is, probably, that a leaf spring is at once the simplest and most satisfactory form that could be devised. It absorbs a proportion of the energy of the shock, giving it back again in vibrations of suitable period, and it contains in itself a vibration damper of no mean order.

We can take off our hats to the unknown genius who

originally produced so simple and yet so efficient a mechanism. Its merits are many, and its defects are few. The main reason for its survival against the pretensions of its rivals is that these all have drawbacks that are fatal in practice, whatever they may be in theory.

The present-day attitude of designers towards leaf springs is to accept them in all their simplicity, but to keep their action constant by preventing the ingress of water and dirt, while controlling the damping by devices that can be adjusted to the load and the road conditions. A great improvement has occurred meanwhile in the material from which the leaves are manufactured, the way in which the spring is anchored to its surroundings, and in other details.

Now that we have decided almost unanimously that we have come to the end of possible development,

science, as usual, suggests another course. We may leave the spring almost as it is and turn our attention to the axles.

A paper read by Capt. C. H. Kuhne, D.S.O., O.B.E., of the Royal Army Service Corps, before the Institution of Mechanical Engineers, detailed the success which has attended the efforts of the military authorities to find a vehicle that would be suitable for carrying loads across rough country, and at the same time give good service on ordinary roads. The successful vehicles were six-wheelers.

The point of interest to light car users is that the suggested system is applicable to much lighter vehicles than were used for transport during the war, and there would appear to be no valid reason why the system should not be applied with equal success to the lightest of light cars. The smallest engine described by Capt. Kuhne as used for military purposes had a Treasury rating of 15.9 h.p., but a six-wheeled, rigid-framed Trojan has already been produced, and appears to be the first small car of this type.

The great advantage of this suspension for ordinary travel is that, for a given bump, the shock is divided automatically into two smaller shocks, owing to the articulation of the rear undercarriage. The action, therefore, is similar, so far as the passengers are concerned, to that of a bogie on a railway carriage.

The weight of the underframe is not greatly in ex-

cess of that of a single axle, because the parts can be designed on a much lighter scale. There are, however, the corresponding advantages of increased adhesion between the wheels and the road, longer tyre life, owing to the lighter burden, reduced shocks, and absence of wheel spin. Petrol consumption is probably not heavier than with ordinary vehicles, although sufficient data on this point has not yet been obtained.

There would be, of course, some increase in cost, especially at first, although it might be possible later to reduce this by using specially light tyres: but the principal objection to the design, as a means of personal transport, would arise probably in the difficulty of arranging two doors on each side of the body. This difficulty is not unavoidable. It might be sufficient to use only one door, or perhaps rear entrance bodies might come back into favour. The solid advantages would be well worth such a slight sacrifice.

The greatest advantage, however, would be in sporting events, for a six-wheeled vehicle would simply revel in steep gradients, loose surfaces, and rough going. The writer has been over virgin ground in a vehicle of this type, and up a hill as steep as the notorious Hepolite Scar, and, both in ascending and descending, every confidence was felt in an ordinary soldier driving after only a week's tuition. Pure racing also would gain from the fact that the possibility of a tyre burst at speed could definitely be eliminated. C.E.H.

## A PHANTASY OF THE NIGHT.

IT WAS late at night and 'twas a dark night. No moon nor stars lent their feeble rays to illumine the long, straight road, bordered on each side by a veritable forest of telegraph poles. But what the moon and the stars could not do the powerful, dazzling searchlights of a monstrous Brayles Bryce were easily capable of performing and they illuminated the lonely highway like the flood-lights of a theatre, picking out every object for nearly half a mile ahead.

A chauffeur sat at the wheel. His livery and the cockade on his cap proclaimed him to be no ordinary chauffeur, which was only fit and proper, for the £5,000 Brayles Bryce that he was piloting was no ordinary car and its owner was no ordinary man. Dozing in the luxuriously upholstered interior, his heavy, affluent-looking features illuminated by the tastefully shaded roof light, he half lay, half sat on the cushions. His evening dress was becoming crumpled, for his attitude was that of a man resting from a hard day's work and presently the dead butt of a cigar fell from his fingers; he was asleep.

Suddenly above the smooth hum of the 50 h.p. Bryce engine rose the shrill ear-piercing screech of a cheap electric horn.

Lord Eustace Wrottan, famous throughout the world as the manufacturer of the "Wrottan £50-er—the bus for the billion," sat up. A faint glimmer shone through the rear window and impatiently he pulled down the blind. Meantime, the chauffeur simultaneously beckoned on the follower and pressed down his right foot a little. The Brayles surged forward and the chauffeur smiled ironically. "That'll larn him!" he muttered.

Ten miles had passed and Lord Eustace again fell a-dozing. He slept very easily, he it noted.

"Kreech!" There it was again—that dratted cheap and nasty horn. Obviously it belonged to a cheap and nasty car, and the chauffeur proceeded to remove his glistening land-liner from its obnoxious neighbourhood. The long beams of the headlamps lit up a tempting stretch of road, and for miles the huge Bryce hummed and purred with joyous freedom. Then round a corner—dead ahead—a group of gipsy ponies. . . . On went the powerful servo-brakes, and the leviathan stopped as though it had reached the end of an elastic tether. At the same time there came a shrieking and a frightful tearing sound from behind, and once again the noise of that tantalizing, desperately aggravating horn split the air.

Now thoroughly enraged, Lord Eustace urged on his chauffeur with most plebeian words of encouragement, and for an hour the mighty car rocked and swayed as it ate up the miles.

Then into the sleeping Metropolis glided the Brayles, but a lorry backing into a gate necessitated a stop, and as the big car drew

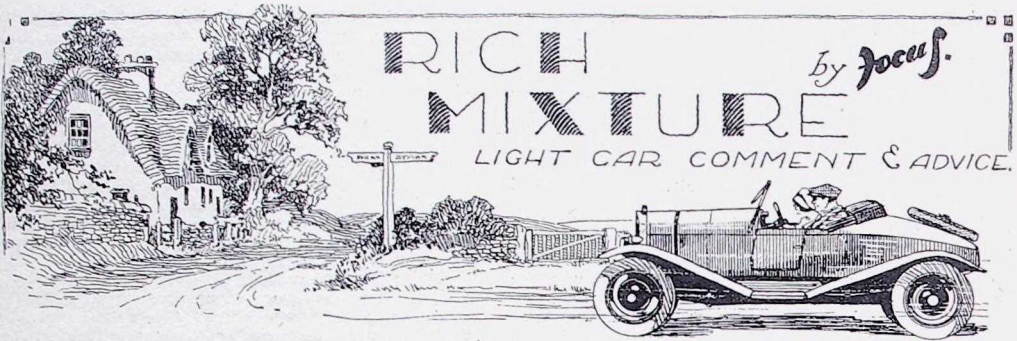
gracefully to a standstill there came again that dreadful howling, tearing noise, and alongside slid a little car, its back wheels locked. Lord Eustace and his chauffeur gaped astounded; it was as though they beheld a miracle.

Then the road was clear, and as the driver of the "miracle" let in his clutch he turned and shouted: "Better buy a 'Wrottan £50-er,' guv'nor!" and with a derisive toot of that awful horn he was away.

ROBBIN.  
B23



"Suddenly above the smooth hum of the 50 h.p. Bryce engine rose the shrill ear-piercing screech of a cheap electric horn."



### *Have You Been There?*

I KNOW of a haunt of old-time loveliness which, at this time of the year, mocks our poverty of words in describing it. Here, within its gardens, life seems to be attuned to the languorous murmur of bees, and flowers spring everywhere as if by right. Through it flows a river on which sunshine ever seems to strike and which passes on in unbroken serenity. Almost one can fancy that, like a thistledown, this dream-place once brushed the river and settled here, to be caught in its embrace for all time. It is not a village: it is a song. Its name is Sonning.

### *Local Pronunciations.*

SEVERAL further letters have reached me in connection with the pronunciation of place-names, most of which have been in Wales. There are in that delectable country places with the most astounding names the pronunciation of which no Englishman can ever master.

I remember once losing my way when going to Dinas Mawdwy. I asked more than a dozen people the way to it, pronouncing the two words in every manner which seemed rational, but nobody had the slightest idea what I meant. Ultimately a village policeman, for whose benefit I wrote the name down, told me the correct pronunciation, which, if I remember right, could be written "Deenus Mowthie," the "ow" being pronounced as in "cow." Another place which gave me a lot of trouble was Machynlleth. The natives pronounce it "Ma-hunt-leth."

I remember once, in the case of a Birmingham-Holyhead-Birmingham 24-hour trial, that there was a hill the name of which was given on the route card as Cefn Du. The competitors dubbed it "Sniff Do." One of the locals told me it was correctly pronounced "Can Dee."

### *Garage Thieves.*

I AM tempted to think that there is something about the act of borrowing tools from cars in public garages that has a sad effect either on the memory or the morality of the borrower.

A chance acquaintance who left his car overnight in a big garage was recently bemoaning to me the fate of a special spanner which he carried for the express purpose of making quick changes of plugs. His car is of the sporting variety and the engine has the not uncommon habit of oiling up its plugs at rather frequent intervals, and, as

the array of carburettor controls and what-nots precludes the use of ordinary box or adjustable spanners, he had paid a big price for a special spanner to be made up.

Imagine his annoyance on discovering that some unscrupulous person had found the need overnight for a similar spanner and, on finding the tool at hand, had appropriated it. Possibly the light-fingered mechanic could have managed just as well with an ordinary adjustable spanner, but in taking the particular tool he caused an unsuspecting owner a deal of trouble and work until another special spanner could be made. If some folk must raid toolboxes, they might at least make away with equally useful and less costly tools!

### *Pedestrian Milestones.*

TOURISTS in unfamiliar country should be wary of trusting too implicitly to pedestrians' directions in respect of distance and direction. An amusing instance of the need for caution happened to me recently whilst testing a car in a part of Hertfordshire not well known to me. As I seemed to be getting away from the route intended, I thought it wise to inquire of a passer-by the distance to a certain landmark.

"Not far," replied the rustic. "It's just up t'road there."

"About a quarter of a mile?"

"Noah; more than that. Say about——"

"——About a mile?"

"Yes. Jes' that, I should say." He indicated the car with his thumb. "Take you five minutes in that."

As "that" was a rather sporty two-seater, I hoped that it would; but 10 minutes elapsed before that landmark was reached.

### *Second-hand Bargains.*

A CORRESPONDENT asked the other day what I considered to be the best make of light car to buy second-hand. He wanted a car for "potter" runs at week-ends, for a certain amount of station work—he lives in the country three miles from a station—and for shopping in a town six miles from his home. My correspondent did not want to spend more money than was strictly necessary; he insisted that the car he bought should be easy for his wife to start by hand, and he wanted a model that was reasonably modern.

I advised him to get a 7 h.p. Citroën. At the moment these—doubtless because they are now

out of production—are obtainable second-hand at very reasonable prices, whilst their reliability is beyond reproach, and spare parts will, of course, be obtainable for many years to come. I wonder if others who know the motor trade fairly well would have tendered similar advice. If not, it would be interesting to hear their views.—[We should be pleased to publish them in our correspondence columns.—Ed.]

### The "No Attention" Craze.

AN acquaintance who wanted a second-hand car was enthusiastic about one which a private owner was trying to sell and which he was assured had not been touched by a tool in 7,000 miles' running. I advised him not to buy it.

A modern car is essentially reliable, but I am afraid that the car has yet to be made, at any price, which will not need one or two trifling adjustments after the running-in period. A little time has to be spent in greasing, taking up wear in the brakes, tightening odd nuts and bolts, apart from oiling and greasing, and the man who boasts he has never "put a spanner on her"—and means it—is neglecting his car.

### Cars Destroying Nature's Balance?

WE all know what happened to the fabled land of Killingworth when the inhabitants rashly slaughtered the birds: the place was eaten up with insects. I do not think, however, they would have fallen into such a parlous plight had they owned motor vehicles, for the number of insects that meet their end through being drawn into radiators or bumped against windcreens, lamps and other

parts must be enormous. Indeed, one feels tempted to ask our scientific friends whether, as in the Killingworth legend, the balance of Nature may not be upset through this cause in the next few years.

One knows that in the insect world Nature is lavish with life; but even so, this colossal slaughter must have an effect in time. A naturalist friend to whom I advanced the theory took it very seriously and said this may account for the noticeable scarcity of swallows and swifts. Unfortunately, I cannot yet detect any diminution in the number of midges and gnats.

### Old-time Relics.

I WONDER how many people, on the look-out for curiosities when on tour, know of a house still standing near Winchester which has known Henry VIII, Anne Boleyn, a Cromwellian M.P. and Horace Walpole?

This historical relic, which is well worth visiting for its antiquity, is some 1½ miles from the village of Bramley, near Sherborne.

At the Parish Church of Bramley, too, is an almost contemporary picture of the murder of Thomas à Becket.

### Another New Game.

AN original—and, I have no doubt, amusing—new sport is gaining favour with village lads. The plan is to take up a position by the side of a main road on a Saturday or Sunday afternoon and whistle or shout loudly every time a car goes past. Some drivers imagine their luggage grid or something of the kind is falling off, stop hastily and inspect the rear of the car, whilst every driver slows up, looks round and is more or less perturbed.

This seems for the participants to be an even more amusing game than the time-honoured one of knocking on people's front doors and running away; but, as one who spent about five minutes making sure that none of the wheels was wobbling, and so forth, before carrying on, I am probably prejudiced against it!

### A FORGOTTEN INDUSTRY.

Just outside Dedham, a village on the outskirts of Colchester, is to be found this reminder of a now forgotten industry. The quadrangle of cottages, in which Flemish weavers formerly produced their famous serge cloth, is easily accessible by road and provides a favourite haunt of photographers in search of interesting "snaps."

### Quaint Inn Names.

AN antiquarian gentleman whom I met while refreshing myself at a wayside hostelry gave me a novel explanation of the curious titles of some of our taverns and inns. He said that a sign such as "The Fish and Doublet" possibly originated through the amalgamation of two houses; "The Fish" taking over the title and customers of "The Doublet" when, for some reason, the latter was closed.

In the Middle Ages the custom of exposing signs was a common one in all trades and, according to my informant, a marriage between an innkeeper and a shopkeeper's daughter or widow might have led to a combination of signs. It is an interesting theory.

Among quaint titles that I have jotted down at various times are the "Swan with the Three Necks," the "Robinhood and Little John," the "Live and Let Live," the "Why Not?" and the "World's End." Doubtless, readers can supply some even more curious.

### Modern Instruction Books.

A COLLEAGUE of mine has shown me a copy of the instruction book issued with the 1927 products of a famous English light car concern. It is a paper-covered booklet of about 20 pages and is illustrated by one lubrication chart and a plug wiring diagram. Under the heading of each component, such as the gearbox and back axle, are detailed oiling and greasing instructions, but there is little or no mention of constructional details and mechanical adjustments. One is not even told whether the hub nuts on the near side have left or right-hand threads, whether it is possible to take up backlash in the steering or whether a clutch stop is fitted. Even the type of clutch used is not mentioned.

### In the Old Days.

HOW different this booklet is from an old instruction book I threw away a week or so ago. It dealt with a 1912 car of Continental origin,

which I ran for a number of years and which was famed for its sturdy construction.

The book was as big and thick as the "Motor Manual," and every detail of the car was described and the methods of adjustments set forth.

There was a wealth of advice on dismantling and carrying out repairs and overhauls, while at the end of the book were about a hundred pages of photographic illustrations on art paper.

Every part of the car was photographed and a number given to it, even down to the split pins. Such small assemblies as petrol taps and cocks and drip-feed oilers were illustrated in pieces and the numbers given to the parts were indexed against the prices in the spares list.

### Cheap Garages.

THOSE who buy "portable" garages would be well advised not to be "penny wise and pound foolish." I know several people who bought cheap motor houses a year or two ago and who are now regretting that they did not spend another £5 in the first instance. In one case, apart from the fact that the whole structure is not nearly strong enough, moisture forms under the metal roof and drips on to the car, whilst in windy weather the roof and panels rattle so violently that the owner complains that it is impossible to sleep.

It is a much better plan, in my view, to have an earth or gravel floor, no windows and a thoroughly well-built structure than to buy a building with an imposing specification, but made so badly and of such inferior material that it is not capable of giving satisfactory service.

### Very Useful.

A GADGET which I hail with glee is the new light car model of the popular Pyrene fire extinguisher. It is about two-thirds the size of the familiar quart size and is very readily stowed in an easily get-at-able place. Although the new model contains only half as much liquid as the quart size, its capacity is ample for extinguishing the kind of fire which might occur on a light car.

GILBERT  
"RUBBOLD"

There, one of the many prettiest villages in England," is on the main road between Dorking and Guildford, and is not far from the open greens and rippling waters of Abinger Hammer, where "Diana of the Crossways" was written.

MIDLAND OFFICES:  
BIRMINGHAM: 16, Bennett's Hill.  
Phone: Central 2572-3.

COVENTRY: 6, Warwick Row.  
Phone: Coventry 4772.

NORTHERN OFFICES:  
MANCHESTER: 274, Deansgate.  
Phone: Central 5433-4.

## The Light Car and Cyclecar

"THE LIGHT CAR AND CYCLECAR" WAS  
FOUNDED IN 1912 TO CATER FOR THE  
NEEDS OF USERS AND POTENTIAL  
PURCHASERS OF LIGHT CARS AND  
CYCLECARS, AND IT HAS CONSIST-  
ENTLY ENCOURAGED THE  
DEVELOPMENT OF THE ECONOMICAL  
MOTORING MOVEMENT FOR OVER  
FOURTEEN YEARS.

NO CAR WITH AN ENGINE CAPACITY  
EXCEEDING 1,500 C.C. (1½ LITRES) COMES  
WITHIN THE SCOPE OF THIS JOURNAL.  
THAT CAPACITY BEING GENERALLY  
RECOGNISED AND ACCEPTED AS THE  
LIMIT FOR A LIGHT CAR ENGINE.

Conducted by  
EDMUND DANGERFIELD.

TEMPLE PRESS LIMITED,  
5-15, Rosebery Avenue,  
London, E.C.1.

Inland Telegrams - "Pressimus,  
Holt, London."  
Cables - "Pressimus, London."  
Telephone - Clerkenwell 6000  
(7 lines).

### Light Cars of 1928.

THE discussion which was started by an article entitled, "What of 1928?" in our issue dated June 17th continues to be extremely interesting, and a considerable number of useful facts are likely to emerge from it. Many of these might well be taken to heart by the trade as a whole, but the majority can make an appeal only to those manufacturers who supply a rather specialized public with a distinctly specialized car. Those who are producing inexpensive light cars at popular prices are guided in fixing their specifications and choosing their equipment by their agents and salesmen, who are continually in touch with the public which they serve, and who consequently are well qualified to furnish constructive criticism concerning the actual needs of the buying public as a whole as distinct from the academic requirements of enthusiasts.

So far the discussion has made it clear that "delivery charges" are resented, that brake adjustments need to be as simple as possible, and that even the most modern all-weather equipment is still not beyond reproach. A very useful contribution to the discussion was made by our contributor "Focus," whose contention that it is towards the closed car which can be opened rather than the open car which can be closed that attention should be turned opens up possibilities of new designs, which we believe would be appreciated by a large section of the buying public.

### Safety First and Road Signals.

IN our centre pages this week we stress the importance of giving only those driving signals which are essential. Too many people imagine that it is their duty clearly to indicate to the world in general exactly what they intend to do when they are about to change their direction of travel—regardless of whether the change will affect other road users, and, in fact, whether other road users are likely to be the least bit interested in their conduct. This leads to two things: first, the need for unnecessary vigilance on the part of more experienced folk, who cannot afford to disregard any signal which may be given by a fellow road user; and, secondly, a risk of accident consequent on the giving of incorrect signals by those who are anxious to do their best, but have failed

to master a code which is not always easy to remember to put into practice when there is so much else to occupy their minds.

For these reasons we have continually advocated the use of a minimum number of signals; in fact, we contend that only one is absolutely essential—namely, extending the right arm horizontally to denote that a turn to the right is about to be made. This necessitates crossing the path of overtaking and approaching

traffic, and the signal must be given clearly, without hesitation and in plenty of time to permit other traffic to act in the correct manner. That even this signal is often given incorrectly vindicates our policy: when the whole code is used confusion is only too often worse confounded.

### Cooling Deficiencies.

WE deal elsewhere in this issue with the latest ideas in connection with steam cooling, which shows some promise and has advantages which cannot be denied. The water in the cylinder jackets of an engine so cooled warms up from cold to 100 degrees C. in two or three minutes, and at this temperature it remains, no matter whether the day be hot or cold or the going difficult or easy. Obviously, there are practical difficulties to be solved before steam cooling could become generally adopted, and not the least troublesome of these is the present-day demand for overhead-valve gear, which necessarily occupies space which with steam cooling is needed for the accommodation of vapour given off by the boiling water. There is another objection: in the event of a leakage of water the system would very soon be empty, as with steam cooling only about an eighth of the normal quantity of water is carried.

A point in connection with cooling systems which must not be overlooked is that there is a tendency for the specific gravity of commercial grades of motor spirit to get higher. This tendency is already reflected in France and America in motor spirits which are so reluctant to vaporize that dilution of the crankcase oil reaches serious proportions. Many American car manufacturers are countering this by fitting "oil rectifiers," which are rather elaborate and distinctly costly. The need for them would be removed if engines warmed up with less delay and ran at a comparatively high and constant temperature.

## CYCLECAR COMMENTS.

A SIMPLE WIRE AND BOBBIN  
STEERING MECHANISM—THE  
PARTS REQUIRED—HOW TO SE-  
CURE THE WIRES—MAKING THE  
BOBBIN.

By SHACKLEPIN.

These sketches show the main assembly of the wire and bobbin steering layout and the details of the wire anchorages, both spring-loaded and plain.

LAST week I promised to publish a complete illustrated description of a simple and entirely satisfactory wire and bobbin steering layout, and I feel sure it will be of considerable interest not only to the reader who asked for the description, but to all enthusiastic amateur cyclecar builders.

In the first place it is necessary to obtain an ordinary front axle and steering assembly, that is, the two swivel heads and track rod. It does not matter what type of steering head is used—this can be left to individual choice—and the track-rod can be in front of or behind the axle beam.

Although a ball-jointed track-rod might be considered preferable from a mechanical point of view, in this case it will be found that the fork-ended type is more suitable because the pins which pass through the fork and steering-lever end on each side can be used to form a swivel anchorage for the banjo plates, which are an essential part of the wire and bobbin mechanism. In the sketch, for the sake of clearness, the track rod is shown in front of the axle, with the banjo plates carried on separate arms behind the axle.

The plates should be made up from sheet metal about  $\frac{1}{8}$  in. thick, cut to a triangular shape, with each side about 4 ins. long. A hole to take the track-rod pin must be drilled in the plate as shown in an accompanying illustration, and the side of the plate opposite this hole should be turned up to form a flange about  $\frac{1}{2}$  in. deep. In this flange are drilled four equidistant  $\frac{1}{4}$ -in. holes.

The steering column should be arranged at such an angle that its lower end cuts an imaginary line drawn between the flanges of the two banjo plates when the axle is in position and the cyclecar normally loaded.

Secured to the end of the column is a bobbin, which can be made of vulcanized fibre or lignum vitae. The bobbin should be made about  $2\frac{1}{2}$  ins. diameter and about 4 ins. long, and it must have a thread cut on it of about 5-32nds pitch. The thread should be rounded top and bottom, as it has to accommodate the round stranded steel wires. Provision must be made to guard against end-play in the column, but

a quite simple bearing will be sufficient for this.

It will have been gathered that four separate wires are used to convey the motion from the steering column to the wheels, each wire being spring-loaded at one end as shown in the illustration. Good quality stranded steel wire about 5-32nds in. diameter should be used. Aeroplane rigging wire will be found very suitable and it is not difficult to obtain.

To assemble the steering the procedure is as follows:—

A nipple of the Bowden type, having a  $\frac{1}{4}$ -in. dia. shank, is soldered to one end of the wire, the other end of which is threaded through the rearmost hole of the banjo plate on one side and passed across to the other side, taking one turn round the bobbin thread as it does so. A threaded steel ferrule about two ins. long and  $\frac{1}{4}$  in. dia. is then slipped over the wire and arranged so that it projects about  $\frac{1}{4}$  in. through the banjo-plate flange. The wire is soldered into the ferrule in the ordinary manner and the end cut off.

Over the ferrule is fitted a stiff spring just shorter than the part which projects at the back of the plate to allow a nut and a lock-nut to be screwed on to the ferrule. It will be understood that by screwing up the nuts the spring is compressed in such a manner that it puts a tension on the wire.

The next wire is treated similarly, except that the spring is fitted to the banjo plate on the opposite side; the next, again, has its spring on the same side as the first wire, whilst the fourth has its spring on the same side as the second. This allows even tensioning on all four wires when the wheels are locked over hard in either direction.

The wires, where they are wrapped round the bobbin, should be placed in adjacent threads as it were, but they must all be towards the middle of the threaded part to allow a few free threads top and bottom, because when the bobbin is turned in steering all the wires will rise up and down the threaded portion—just as a nut slides up and down a bolt—according to whether the bobbin is turned to the left or to the right. There is no need to secure the wires to the bobbin in any manner, as the friction is ample to provide a positive drive.

It is advisable to protect the wires in some way from the effects of wet or mud, and the simplest method of doing this is by painting them with boiled oil.

A refinement which probably is worth carrying out is to set the two banjo plates so that the flanges are at the same angle as that of the steering column. Thus the wires will lie in the same plane as the bobbin.

It will be understood that the up-and-down movement of the road springs makes no difference to the steering, as the wires flex without setting up the least strain upon any part of the assembly.

I think that with the aid of this description and by studying closely the accompanying sketches, any amateur will be successful in assembling a steering layout of this type, and it will be seen that not only is it exceedingly cheap, but very little workshop equipment is necessary to make it. Any garage would machine the bobbin for a few shillings, and the screw ferrules can easily be made by drilling holes of the same diameter as the wires down the centres of fine threaded bolts from which the heads have been cut.

# Talking of Magic Carpets



The Arabians had theirs—in fiction

*The TROJAN* (in actual fact)

takes you as surely as the magic  
carpet was reputed to do—it is

*you have the makers' signed undertaking  
that the TROJAN will not cost you a  
SINGLE PENNY beyond the usual  
running costs for petrol, oil and tyres.*

## The Trojan

### £125

*The price of the TROJAN  
complete on solid tyres*

*Fitted with full pneumatic  
equipment . . . £130*

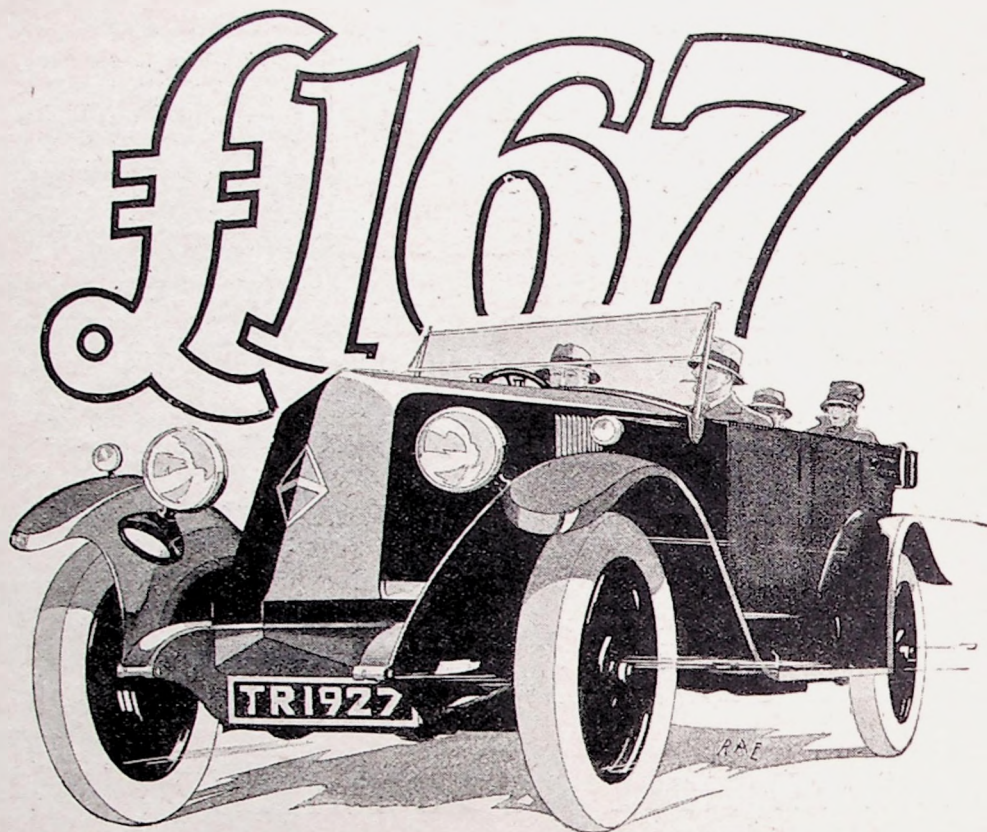
*The 3-door 4-seater model  
on solids . . . £140*

*The 3-door 4-seater model  
on pneumatics . . . £145*

*TROJAN—The Modern Magic Carpet which transports  
you and your family with incredible ease and economy*

*Leyland Motors Limited Leyland Lancs*

READERS, NOTE.—It assists the small car movement and the advertiser, and ensures you prompt  
attention, to mention "The Light Car and Cyclecar" in your enquiries.



## 4 DOOR... 4 WHEEL BRAKES FULL FOUR SEATER

**45 M.P.G. TAX £9 OVER 45 M.P.H.**

5 DETACHABLE WHEELS with low pressure tyres. Electric lighting and starting. FOUR WHEEL BRAKES. CLOCK. SPEEDOMETER. Diamond Switchboard incorporating Dashboard Lamp. FOUR SHOCK ABSORBERS. All-weather side curtains. Double Note Electric Horn on steering wheel.

Every detail of the 9/15 models demonstrates their amazing value. They represent the bedrock of comfortable, low cost motoring.

Write to-day for illustrated literature and technical specifications of the 9/15 Models. Two seater with double dickey £159 10s. Standard Open Tourer £167. De Luxe Open Tourer £184. Four Door Saloons from £207. Coupes from £225.

RENAULT LTD., Head Office and Works,  
14, Seagrave Road, West Brompton, S.W.6.

Showrooms: 21, Pall Mall, S.W.1. (Phone: Reg 0974)

**RENAULT 9/15'S** <sup>®</sup> **IMMEDIATE DELIVERY**

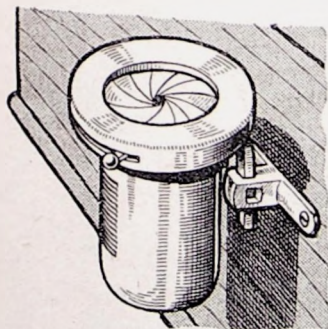


### An Effective Stain Remover.

**O**IL, grease or tar spots, whether they be on the hands, clothing or the bodywork of a car, are not always easy to remove effectively. Brown Bros., Ltd., are, however, marketing a liquid cleaning agent known as Thawpit, which we have proved to our satisfaction will remove oil, grease or tar in a very efficient manner and without the least risk of damage to the surface being cleaned. The liquid, which is put up in bottles, price 1s. 6d. and 2s. 3d., is non-inflammable. Incidentally, Thawpit will remove stains from brown shoes.

### A Neat Ash-Tray.

**T**O prevent any risk of ash, cigarette-ends or matches being spilled on the floor of a car from an ash-tray, Messrs. Haseler and Son, Ltd., 94, Bridge Street West, Birmingham, market a special receptacle which can be enclosed at will by an iris cover. The particular ash-tray illustrated is priced at 7s. 6d. and has a very convenient method of attachment. The bracket for screwing on to the fascia board can be mounted either vertically or horizontally—an advantage where the space available is somewhat confined. This concern also markets a smoker's companion, which, comprising a pipe ring and matchbox, sells for 10s. 6d.



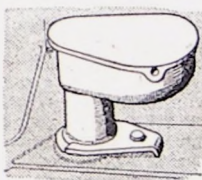
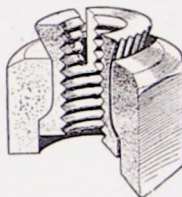
An ingenious ash-tray employing an iris cover to prevent ash from being blown about.

### An Interesting Lock-Nut.

**A**N ingenious lock-nut, which is entirely self-contained, is being marketed by the Caesar Self Locking Nut Co., Percy Street, Hulme, Manchester. A cut-away view of the nut, which appears above, shows its construction clearly, and it can readily be seen that when the outer hexagonal portion is screwed down the inner sleeve will be turned with it, owing to the serrations on the latter. So soon as the outer portion meets with any resistance, further screwing will result

in the sleeve being drawn down farther into the nut, and, owing to its wedge shape, the upper portion will contract and grip the bolt-head tightly, thus locking the nut in position. The thread of a bolt cannot be damaged by the use of one of these nuts, and the nut can be used over and over again without being damaged. Caesar locking-nuts can be supplied with either brass or steel centres, and the prices compare very favourably with those of ordinary nuts. The 2-in. size, for instance, sells at 13s. 4d. per gross with steel centres, or 14s. 5d. per gross with brass centres.

A cut-away view of the Caesar lock-nut.



A neat oil filler for Austin Sevens.

### An Austin Seven Accessory.

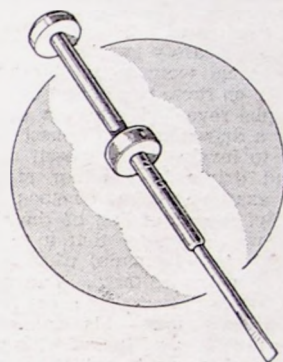
**E**VERY Austin Seven owner knows the difficulty of replenishing engine oil unless a special funnel is used, and it is not always convenient to carry one in a car. The Pressed Products Manfg. Co., 44, Green Lanes, Stanley Road, South Harrow, Middlesex, are marketing a special oil filler, designed to overcome the difficulty. This filler, which is made of aluminium, retails at 6s., and should be very easy to fit. It is necessary only to remove the spring arm which holds the existing filler cap, and the hexagonal-headed stud will be found underneath; a bolt is supplied, which fits the stud-hole, and is used to secure the clamp holding the actual filler in place. The existing filter and leather washer can be left in position, as the filler bolts over them. An accompanying illustration shows the accessory in position. For cars fitted with an M.L. magneto a slightly longer model is supplied, and a helical spring is included for lengthening the dipper rod.

### A Useful Screwdriver.

**S**CREWDRIVER blades have a very annoying habit of slipping out of the slot of a screw when the grip on the handle is relieved to give another half-turn, and this trouble has been appreciated by Atalanta, Ltd., 1-3,

Brixton Road, London, S.W.9, who are marketing a range of screwdrivers constructed on novel lines. The chief characteristics of these tools can be seen at a glance from the accompanying illustration.

The handle remains stationary in the palm of the hand, the blade being twisted by means of a knurled ring. Thus the pressure on the screw-head can be kept constant and there is no danger of the blade slipping. Incidentally, the distance of the knurled ring from the handle is adjustable to suit individual requirements. Five models are made, three having mild-steel

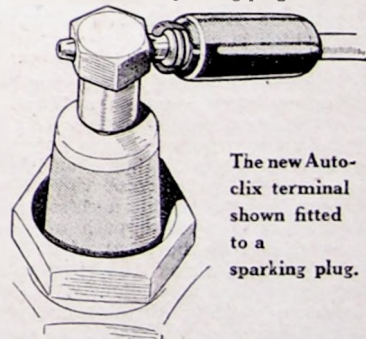


The Atalanta screwdriver which is designed for easy handling. (See accompanying paragraph.)

handles and cast-steel blades, while the other two, which are intended for electrical use, are provided with insulated handles. Prices range from 1s. 6d. for the smallest all-steel model to 4s. 6d. for the larger insulated type.

### A Neat Plug Terminal.

**A**N accompanying illustration shows a very neat and ingenious sparking-plug connection which has just been placed on the market by Lectro-Linx, Ltd., 254, Vauxhall Bridge Road, London, S.W.1, and is priced at 1s., or 4s. for a set of four. The Auto-clix, as the fitting is called, consists essentially of two parts, a hexagonal adaptor to screw on to the sparking-plug terminal



The new Auto-clix terminal shown fitted to a sparking plug.

and a plug, which is attached to the end of the high-tension lead is a push fit in the hole in the adaptor. The plug is provided with an insulator, so that the high-tension lead can easily be connected or disconnected while the engine is running, without fear of shocks; this is a very useful feature, for it provides a ready means of testing sparking-plugs. The accessory is well made and impresses us as being very practical.

The control of a car on the road should be made as simple and safe as possible—

## SO THAT OTHERS UNDERSTAND.

AN ARTICLE STRESSING IT IS MAINTAINED, & WHAT IS EXPECTED

"SAFETY first" is a precept the value of which cannot be over-estimated, but in their efforts to do all that is required—and expected—of them, many drivers, particularly those in the novice class, go to the opposite extreme and aim at a condition which narrowly approaches "safety last."

A typical example is shown pictorially on these pages, and the photographs reveal clearly how easy it is for a driver having the best intentions to involve both himself and a second driver in a minor mishap. The example is a common one, namely, the extending of the right arm (which denotes that a turn to the right is to be made) when a left-hand turn is meditated. The conditions are aggravated if a car has a rather poor lock—this cannot be said of the Rover Nine, which figures in the photograph—which necessitates pulling out slightly to the right so that a sufficiently wide sweep is available to enable the car to be turned easily to the left.

Amongst a certain class of folk there is a notion that a signal is not essential as a means of showing exactly which way a car is to be turned, but rather as an indication that a change of direction—any change of direction—is contemplated. In actual fact the generally accepted code of signals was drawn up with the idea of showing quite clearly the exact nature of any manœuvre which a driver has in view.

### One Essential Signal.

We ourselves consider that there is only one essential signal, namely, that which is used to denote a turn to the right; it is given by extending the right arm horizontally and in a quite unmistakable manner. If any of our readers care to make a point of examining the laws which govern the control of traffic they should be converted to our point of view, for turning to the right necessitates crossing not only the path of approaching traffic but that of traffic which is overtaking and, perhaps, anxious to pass. Obviously, when turning to the left, when stopping or when slowing down, conditions are very different, and any of these changes of driving tactics can be made without regard to other road traffic, providing they are carried out in a common-sense way.

Take, for example, a turn to the left. Why wave on overtaking traffic which, in the ordinary course of events, will pass us if we are driving a slow-moving vehicle? Why not merely slow down, hug the kerb and

THE IMPORTANCE OF GIVING CORRECT DRIVING SIGNALS WHICH  
SHOULD BE REDUCED TO A MINIMUM NUMBER—THE "RIGHT TURN"—  
OF DRIVERS AT BUSY ROAD JUNCTIONS—A COMMON MISTAKE  
GRAPHICALLY PORTRAYED.

turn off quietly without giving any signal which will divert the attention of other folk? Similarly, if a man decides to stop, he should draw into the kerb, then slow down, allowing overtaking traffic to pass on his off side without the need for any signal to be given.

In advocating one signal only, we have in mind also an aspect of car control which may easily be overlooked. In an emergency a driver surely requires the use of both hands; how, therefore, can he be expected to raise one high above his head, when, for example, the need for very sudden and rapid deceleration is felt? Is it not better for him to concentrate on the control of his car than to risk letting it get out of control in a frantic endeavour to acquaint other drivers of the new

perhaps, five or six roads meet, and it will be of assistance not only to the point-duty man but to the driver himself if he clearly indicates the turning which he desires to take by pointing in that direction. This applies with particular force to open cars, but even in a saloon it is possible either for the driver or his passenger to show in which direction it is desired to go.

### The Recognized Code.

From the foregoing it should not be assumed that we condemn out of hand the following of a code of signals which has been almost universally recognized and which new motorists are encouraged to master and adopt directly they take to the road. We would reiterate, however, that anything which is calculated to divert a driver's attention from the immediate work in hand is to be deprecated, and for this reason we should prefer to see the right-turn signal, and none other, adopted.

Driving in these days is sufficiently harassing sometimes, without the introduction of unnecessary precautions; the courtesies expected from those in charge of motor vehicles should be reduced to a minimum so that the danger of motoring becoming irksome to the inexperienced or nervy may be eliminated.

For the benefit of readers who do not share our view, we may briefly summarize the recognized code of signals, which is as follows:—When about to turn right, extend the right arm. This should be done in plenty of time so that adequate warning is given to overtaking traffic. When turning left, invite overtaking traffic to pass on your off side by giving a waving-on signal, again with the right hand. The advice previously given with regard to this manoeuvre—i.e., that a driver should hug the kerb before making the turn and should not suddenly swing over to his near side from the crown of the road—of course applies. When about to stop, the hand should be held vertically, but this is called for only when following traffic also will have to stop owing to conditions visible perhaps to nobody but the leading driver. In other circumstances the "waving-on" signal should be used. The "caution" signal is given with the palm of the hand downwards, the hand being raised and lowered fairly quickly.

So far as possible the driver alone should be responsible for giving signals. Passengers who take it upon themselves to furnish duplicated or auxiliary signals frequently do the wrong thing.

condition with which he is faced?

A multiplicity of driving signals is to be condemned also, because there are some people who imagine that it is their duty to give the proper signals on every possible occasion and others who revel in waving their arms about as though they were drowning—certainly without conveying anything but a sense of alarm and bewilderment to their fellow-motorists. This, of course, is bad from every point of view.

We have recommended the giving of one signal only, but motorists should bear in mind that a certain amount of initiative is expected in the vicinity of cross-roads at which policemen, guides or patrols are stationed. It may be that one is approaching a local junction where,

## Week-end Events.

## TO ALMS!

One-time Freak Gradient  
Easily Surmounted in the  
M.C.C. Team Trial.

SIX Morgans took part in the M.C.C. Inter-team trial last Saturday, but, through no fault of the three-wheelers, the winning team was the Ilkley and District Motor Club's, which was composed entirely of motorcyclists. The runners-up, the Cardiff Motor Cycle and Car Club's team, were also all motorcyclists.

The start was from Daws Hill, near High Wycombe, and 29 teams, comprising six riders each, were required to cover the 34-mile course three times non-stop, running as closely as they could to their own predetermined schedules. The Ilkley Club's total time error was only 1 min. 17 secs.—a remarkably good performance—and the Cardiff Club's error was 6 mins. 57 secs.

The course, by no means easy for the solo riders, was exceedingly tricky for the three-track machines. One little hair-pin off the road on to the grass of Wheeler End Common caused the Morgan drivers to have horrid fears every time they approached it, and torn-up grass and gravel showed where they had left their marks on it. By way of Dashwood Hill the route led to Alms Hill, and here the Morgans showed their contempt for the gradient and the ruts by taking it at high speed. So fast was R. Horton (Worcestershire) that he bounced high into the air when he hit a bump in avoiding a stranded



UP AGAINST IT! — G. C. Harris (Morgan) encountering a partially submerged obstruction in a watersplash near Beacon Hill.

motorcyclist. All three wheels came up off the ground, and it was a marvel that he was able to regain control. Another fast man was H. C. Lones, of the same club. He was driving a peculiarly high standard model with a water-cooled Anzani engine mounted well forward of the bonnet.

F. A. Boggis (Brighton and Hove) was unlucky on his last ascent of the hill, for he ran out of petrol when he had surmounted the worst portions. Boggis had fitted a brand-new engine the night before, and its petrol consumption was working out at roughly 35 m.p.g., so he had a sporting chance

of completing the course with the three gallons he was able to take aboard. But the gradient caused the spirit to run to the back of the tank, and although he had enough to finish the course, he had not sufficient "head" to supply the carburetter.

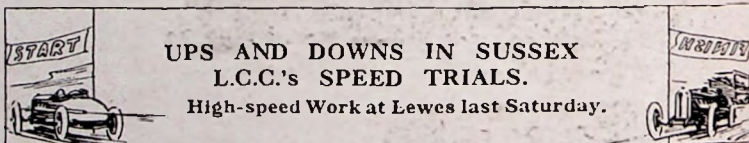
Beacon Hill caused little worry, but a long and tortuous narrow lane which followed gave the three-wheelers a "bad quarter of an hour," for it was only just wide enough to take them.

Of the six Morgans competing four finished the three circuits, but in every case their efforts were nullified by the failure of motorcycle riders.

DESPITE occasional showers and a typical blustering South Downs wind, a large gathering of spectators attended the speed trials held by the Kent and Sussex Light Car Club on the race hill at Lewes last Saturday. Owing to insufficient entries the first four of the 12 classes down on the programme were cancelled, but as each car was allowed two runs for each entry a considerable time was taken in running off the events. The trials were held over a 700-yds. course, which had a slightly rising gradient over the greater part of its length.

After the first class had been run it was discovered that a fault had developed in the electrical timing apparatus; subsequent results were obtained by an approximate method of timing with flags and stop-watches, but measurements were nevertheless taken to fifths of a second.

The first class resolved itself into a duel between two two-seater Austin Sevens, J. Ridley making the shorter time of 38½ secs. In the event for standard sporting two-seaters under 1,100 c.c., won by F. Marshall (G.N.) in 31 secs., George Newman (driving the same Salmson which performed so well in the recent J.C.C. High-speed Trial) tied for second place with S. B. Vos (Amilcar). Two re-runs were



necessary to determine the faster car, for on the first re-run identical times were made. The Salmson eventually took the shorter time.

A smart Vernon Special, driven by G. E. Took, made the best performance in the next class for super-sporting two-seaters under 1,100 c.c., and also succeeded in capturing the awards in the classes for 1,500 c.c. super-sporting two-seaters and 1,100 c.c. racing cars. Certain alterations to the car, such as removing the windscreen, lamps and so forth, were made in order to enable Took to compete in the different classes, and owing to the reduced wind resistance of the car in its stripped condition, Took covered the course in 26½ secs. in the event for 1,500 c.c. racing cars.

E. Hillary (Frazer-Nash), after making the shortest time in the class for standard sporting cars up to 1,500 c.c., taking 28 secs., was unfortunate in breaking his low-gear chain in starting off for his second run. As he was unable to borrow a chain or effect a re-

pair, he sportingly attempted subsequent runs by making second-gear starts.

Another unfortunate was F. Marshall, who broke a valve on his chain-driven o.h.-camshaft G.N. in the event for sports cars up to 2,000 c.c. This class was won by a late-entered Frazer-Nash, which covered the course in 31½ secs., F. Marshall and E. Hillary at first tying for second place.

In the classes for 1,100 c.c. and 1,500 c.c. racing cars, Lewis Humphries drove the well-known "Kim II" G.N.; he was dogged by persistent misfiring, however, which prevented him from obtaining first place. At the commencement of the 1,500 c.c. racing car class, Newman's Salmson performed a sensational skid on the wet surface, and the valuable seconds wasted in bringing the car back to the straight prevented him from obtaining first place.

Frazer-Nashes, driven by R. R. Jackson and N. G. Asprey, took first and second places respectively, the winner's time being 23 secs.

**200  
GUARANTEED  
CHOOSE**

**EVERY**

As Sole Alvis Distributors for London and Manchester we give the best terms and service.

The 10 h.p. Swift of to-day is amazing value, and in stock at Henlys.

\* No waiting for Austins at Henlys of Great Portland St.—the Direct Official Austin Agents.

O YOU know that you can secure immediate delivery of all the world's finest cars on unique "No Deposit" or other terms, at Henlys?

Are you aware that every one of Henlys enormous selection of used cars (over £100) is guaranteed?

Consider the following examples, and write for complete lists:—

Austin 7 h.p. 1926. 'Cup' model. 2-str. F.W.B. Like new. £135.

Fiat. 9 h.p. 1926. Coupe. F.W.B. Like new. £190.

Singer. 10 h.p. 1926. 4-str. F.W.B. In beautiful order. £165, and many others from £50 upwards.

#### NEW CARS INCLUDE

Alvis, Swift, Austin, Fiat, Singer, Lea-Francis, Citroen, Wolseley, Rover etc.

Full particulars by return.

# HENLYS

## LONDON'S LEADING MOTOR AGENTS

1, 3 & 5, PETER STREET,  
MANCHESTER.  
Central 1780.

GREAT PORTLAND ST, W.1  
Langham 3341  
(10 lines)

DEVONSHIRE HOUSE,  
PICCADILLY, W.1  
Grosvenor 2271

The small advertisement columns of "The Light Car and Cyclecar" form a unique mart for the disposal of all goods of interest to small car users.



**J. C. C.  
HIGH - SPEED  
RELIABILITY  
TRIAL.**

June 19, 1927.

**12** GOLD MEDALS  
**3** BRONZE MEDALS

**—all on  
CASTROL!**

The grade of Wakefield CASTROL recommended for your needs is shown on the Wakefield Chart at any leading Garage or Service Station. For your home garage, order a drum from your local agent, and on the road buy from the Wakefield Branded Cabinets at our recommended price of 1/6 per quart for CASTROL "CW" or "AA," 1/8 for CASTROL "C," and 1/10 for CASTROL "XL."

*Solid!*

**T**HERE is something more solid behind CASTROL claims than words, or even sporadic success. CASTROL prestige is built on conscientious endeavour to give the best science can produce.

The reputation of Wakefield CASTROL as the Aristocrat of Lubricants is unassailable. Every test brings it fresh laurels—every new user adds testimony to its irreproachable quality.

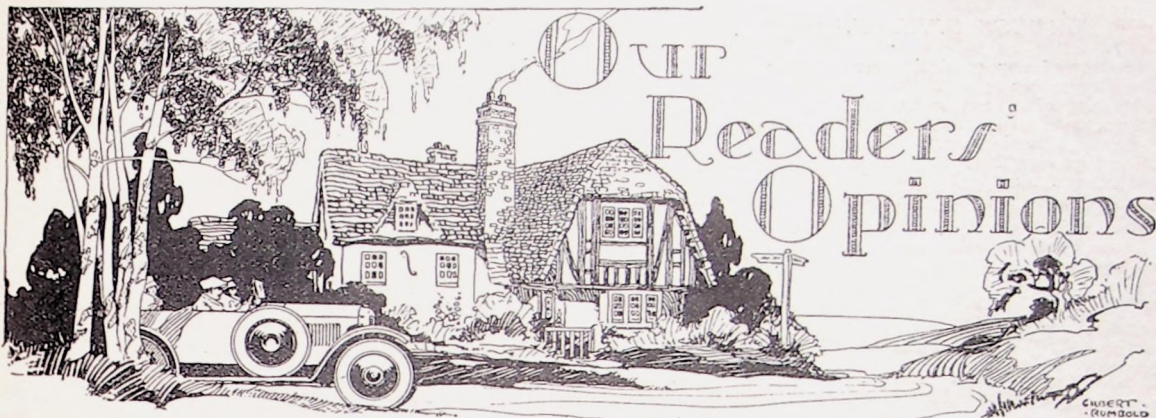
And so the reasoned recommendation of over 200 of the World's Leading Motor Manufacturers is to use—

**WAKEFIELD**



**—the Product of an All-British Firm.**

C. C. WAKEFIELD & CO., LTD., Wakefield House, Cheapside, LONDON, E.C.2.



We welcome letters for publication in these columns, but take no responsibility for the opinions expressed. No anonymous communications will be accepted, but writers may use a nom de plume. To ensure publication in the next issue letters should be addressed to the Editor, "The Light Car and Cyclecar," 5-15, Rosebery Avenue, London, E.C.1, and should reach us on Monday. We reserve the right to make any alterations or deletions which we deem necessary. Please write only on one side of the paper and leave a wide margin.

## CYCLECAR RACING.

### A Plea for Reviving a Once-popular Sport.

One generally finds oneself in cordial agreement with "Shacklepin's" remarks, but never more so than when, as in last week's issue, he deals with the vexed question of races for three-wheelers. Surely the old fallacy that three-wheelers are dangerous no longer serves to excuse the J.C.C.'s neglect of this class of vehicle?

#### A Cyclecar Grand Prix.

"Shacklepin" quotes Mr. Hall's fine ride in the H.P. as disproof of this really childish belief. If farther disproof were necessary, Mr. Tottey's Omega and the countless Morgans that have swept the board in hill-climbs, etc., should supply it. In France three-wheelers race against four-wheelers and beat them.

This brings me to my point. A race in which three-wheelers can compete against four-wheelers under really strenuous conditions is urgently needed. Short three-lap events against motorcycles, and even the J.C.C. high-speed trial, do little or nothing to improve the breed. The T.T. Races have brought the motorcycle to a pitch of perfection undreamt of ten years ago, and few would deny that the Grand Prix type of race has given us the amazingly efficient 1,500 c.c. cars of to-day. Three-wheeler design in England, unassisted by such tests of stamina, has stagnated for years. In France, where such cars race against each other and against four-wheelers, a designer is compelled to "get on or get out."

The J.C.C., when it developed from the Cyclecar Club, took over the responsibilities of the original body; it can

scarcely be denied that it has neglected those responsibilities very completely.

We now need a new organization—or one of the established ones—to organize a cyclecar Grand Prix. Entries should be limited to three or four-wheelers of under 8 cwt. divided into classes—1,100 c.c. and 500 c.c. The course should be similar to that of last year's 200-Mile Race, and should be over at least 200 miles. Rules should follow those of the F.I.C.M. for Grand Prix events (31-in. body, two seats side by side, mechanic to be left at pits, etc.).

Entries? One foresees a "dog-fight" between Morgans, D'Ysians and Omegas, each make represented by both trade and private entries, and with the overdue Beart-Siran duel in the forefront. A few G.N.s, and possibly a supercharged Coventry-Victor and a Sandford, would ensure a good race. The 500 c.c. class should bring out Mr. Tottey's Omega, Mr. Fernihough's and Mr. Vidler's Morgan Specials, two or three H.P.s, perhaps the Jappie and the Nomads, and possibly a French entry (Sima-Violet or Monet-Goyon) to give the proper international flavour.

Surely such a race is not impracticable. The writer knows personally of five certain entries which would be handed in within a week. Certainly it would attract a "gate" large enough to be worth while, and the stimulus to the economic and popular cyclecar would be enormous. Finally, it would do more to remove the lingering prejudice against the three-wheeler than could any other form of publicity.

GRAND PRIX.

## What of 1928?—Criticisms and Suggestions.

### Closed Cars which Open.

Your contributor "Focus" has struck the right note when he states that what we want is a saloon body which opens. I think about 75 per cent. of open-air-loving Englishmen want an open car whenever they can have it with comfort, but my experience is that for perhaps ten months in the year they put up with an uncomfortable, draughty all-weather enclosed car for the pleasure of a few days' open-air motoring. This should not, and need not, be.

Nearly all motorists run with side curtains permanently erected, so why cannot these curtains be enclosed in a rail over which a hood could be run? This is done in Alexander's sunshine hood, but as it, I understand, is fitted only to one make of car, it benefits the general body of motorists little. It or something similar might surely be adapted for all open cars.

J.C.

### The Cost of Spare Parts.

So much is heard nowadays relative to the cost of motoring and the cheapness of light cars that it is well to devote a little time to the cost of "spares" when selecting a car. This is perhaps the most important thing to consider. A few more miles per gallon or a slightly greater maximum speed are as nothing in comparison. I myself own a well-known British car of 12 h.p. and I recently purchased for my wife a small car of French make.

#### "Extortionate Prices."

When decarbonizing my own car I was surprised at having to pay over 10s. for a new gasket, whilst the cost of replacing a broken side screen on my wife's car was almost prohibitive in comparison. The agent to whom I went for spares openly declared, "I suppose you know the make up the price of their cars on spares?"

It is of little use manufacturers loudly proclaiming the

## OUR READERS' OPINIONS (contd.).

cheapness of any particular car when extortionate prices are charged for spares.

It may, of course, be argued that a good car carefully driven needs no spares, but at the same time I think that if a prospective buyer were able to see a price list of spares of various cars there would be a very drastic alteration in the sales of some makes.

F. ALLEN FOX.

\* "Whilst the prices charged for spare parts are, admittedly, sometimes excessive, readers should not pay too much attention to such vague phrases as "making up the price of cars on spares."—Ed.

### More Attention to Finish Necessary.

Allow me to endorse "Marmaduke's" concluding remarks on "What of 1928?" in last week's issue of your journal. After three years' motoring experience, including

#### Poor Delivery "Tune."

one year on a motorcycle and two years' trouble-free running of a de luxe model of a popular light car. I recently exchanged my car for the latest model of the same well-known make. I paid between £20 and £30 over standard price and obtained a de luxe model, in which a buyer naturally expects a little more attention to be given to details in finish, accessories and so on. Instead,

### Lubricating Speedometer Drives.

We were interested to note your reference to the lubrication of speedometer driving cables in the "Ideas for Owners" page of your issue dated June 3rd. We wish to point out that on all Watford speedometer flexible tubes will be found a small hole of  $\frac{1}{8}$  in. diameter placed close to the knurled union which connects the flexible tube to the instrument. One or two drops of engine lubricating oil injected through this hole about every 2,500-3,000 miles will keep the cable well lubricated and in good condition.

W. J. NORTH, BUYER,

FOR NORTH AND SONS, LTD.

### The Most Efficient Temperature.

I have read with interest the discussion in respect of air and water cooling. I have been driving cars now for over 20 years, during which time I have handled all the well-known makes of car ever on the English market, including air and water-cooled models. For the past five years

#### "Never Known to Overheat."

I have driven a twin air-cooled A.B.C. which has covered almost 40,000 miles. Not only have I no complaint, but I may say I am full of praise for this particular car. I know of nothing within the same range of price that can give it points; responsiveness, acceleration, all-out speed and "untiringness" leave nothing to be desired. I have never known this car, given a good oil and correct carburation, to overheat even when given every opportunity of doing so by means of long spells on intermediate gears in hilly country. While in no way wishing to criticise the accepted method of cooling—namely, by water—do let us admit that there are air-cooled cars which are capable of putting up an equal performance without any more tendency to overheat than the orthodox water-cooled car, which in the ultimate sense is air cooled!

One could also say quite a good deal about the most efficient engine temperature which exceeds the boiling point of water. If air cooling is as inefficient as some of your correspondents would have us believe, how is it that motorcycle engines are so much more efficient, size for size, than the average light car engine? Also, how many remember Mr. Gordon England's wonderful efforts in the 200-Mile Races with an A.B.C.? In these he competed in the 1,500 c.c. class with a 1,200 c.c. air-cooled engine without fan, and on one occasion finished well in the first half of the 15 finishers, his highest lap speed being 86 m.p.h.

Critics of air cooling should also bear in mind the vast number of Rover Eight cars giving excellent and quite reliable service in many—if not in most—cases in the hands of somewhat cruel, and possibly inexperienced, owners. I personally know of several neglected, yet never-failing, "Eights."

E. N. NEEDHAM DAVIES.

\* An article bearing on this subject, entitled "The Ideal Cooling System?" appears elsewhere in this issue.—Ed.

however, I have had the following series of petty annoyances in the course of two months' running:—

(1) The petrol tap leaked badly from the first and eventually was exchanged.

(2) The electric horn is so unreliable that, in desperation, I have now had a bull horn fitted.

(3) No. 1 plug oils up practically every time fresh oil is added to the sump, although care is taken never to fill quite up to the "full" mark.

(4) The side screens were all a bad fit and needed adjustment of the pegs.

(5) The leather upholstery broke away in one place and had to be repaired.

(6) Hardly a single greaser on the whole chassis would take grease from the gun at first.

(7) The flexible connection of the foot pump is useless, as it leaks air at both ends.

After a month's careful driving, well within the recommended limit of speed for a new car, a pronounced knocking developed in the crankcase, and the car went back to the makers for attention. A few days after its return the radiator developed a bad leak under the head, and the car went into dock again. Could anything be more exasperating in a new supposedly "de luxe" model? Anyway, in future my motto is  
"WARE MASS PRODUCTION."

### Popularity of "Top-gear" Cars.

Are not some of your correspondents missing the real facts in the "three or four speeds" controversy? As suppliers of a large number of cars, and particularly second-hand ones, we find that where there is one customer who will use a gearbox as it is intended to be used—that is to say, changing from fourth to third instead of hanging on to top—there are easily 49 who do not wish to be bothered to change; they want a top-gear car, and this brings us to another observation. Cars with four speeds (excepting sports or special models) are no higher on top than "three-speeders," and in many cases the third gear on a "four-speeder" is the same as the second on a "three-speeder"; therefore, where does the gain come in with a "four-speeder"?

#### The Question of Ratios.

It is our view that suggestion has a lot to do with the craze for four speeds. We have frequently discussed the matter with customers who fondly imagine that with a four-speed box they have a higher top gear and that they are saving the "revs." of the engine. A glance at the gear ratios given in the catalogues of a few popular makes of light car should soon shatter this delusion.

R. M. VIVIAN,

PER PRO R. M. VIVIAN AND CO.

### Steam Light Cars

I read with much interest in your issue of May 6th of the possibility that an all-British steam light car may be placed on the market shortly. The only possible snag appears to be the production of an efficient burner. To my knowledge there are four makes of American steam car at present with efficient burners giving every satisfaction. One of these makes, the Doble, has for years had an efficient and reliable burner guaranteed for three years. Are our engineers at home unable to produce a similar burner? I am aware the Doble is covered by patents.

#### The Burner Difficulty.

I also consider that one may be made that would burn crude oil such as kerosene, which at home I believe is just a fraction cheaper than petrol. This would then place the steam light car in a still more economical position. The flash boiler and compound engine should be much more efficient and economical than the Stanley boiler and engine. After all, I believe there are a few Whites still running which have given every satisfaction for years. I feel sure that our present clever designers will put an efficient and reliable steam light car on the market, which I am convinced will find plenty of purchasers.

Any information published in *The Light Car and Cyclecar* about this proposed new steam light car would be read with much interest by many overseas enthusiasts, including myself.

OVERSEAS ENTHUSIAST.

Duais, India.

# Come to Dunhills for all equipment

Everything but the car can be obtained from Dunhills

**FOLDING STOOL.**  
(Patent No. 242751.)  
For all purposes. Spring supports. Strong canvas seat. Price 7/6 each. BACKREST for above, easily fitted, 3/- each. Post free.

**"BARNACLE" LICENCE HOLDER.**  
Fixed by suction, in less than half-a-minute, to wind-screen or side window. Detached with equal ease. No screws, no cracked cover glasses, and the "BARNACLE" cannot be dislodged by jolting. Absolutely water-tight. 3838/80 Polished Brass, Nickel-plated, or Dull Black finish, 7/6 each, post free.

**"STADIUM" AUTOSCOPE JUNIOR DRIVING MIRROR.**

Specially suitable for Light Cars. The Mirror glass gives a clear and wide reflection and the concealed ball joint is also embodied in this model. Well finished in black with N.P. mounts. Size of front 4 1/2" by 2 1/2". Various fittings can be supplied. Post free.

**"STADIUM" PETROL CAN CARRIER.**

Is squarely shaped, grips the can rigidly, and prevents the slightest rattle. Strongly made of solid cast aluminium, highly polished, and fitted with very efficient locking device. 6/6 each. Post free.

**METAL TOOL BOX.**  
Suitable for light cars and small saloons. Made of heavy unguise steel, fitted with strong combined lock and latch. Finished in hard, glossy, black enamel. Model 6654/80. Size 15 x 8 x 7. 12/6 each.



**DUNHILLS DRIVING CUSHION.**  
Prevents strained position when driving. In plain Leatherette, in green, brown, blue and black, 27/6. Antique, in brown, blue, red and grey, 30/- each. Post free.

**ASH TRAYS.**

A strong Ash Tray at a low price. Made of Electro-plated Nickel Silver. Easily detached from carrying bracket to facilitate emptying and cleaning. Complete with cigarette or cigar rest. No. 6430/80—3/- each, post free.

**DEEP HIDE SUIT CASES**

Cut from real hide and mounted on metal frames, fitted with two locks and real leather handle.

Sizes: 22 x 13 1/2 x 7 1/2	22/9
24 x 14 1/2 x 6	24/6
26 x 14 1/2 x 6 1/2	26/-
28 x 15 1/2 x 7	28/-
30 x 15 1/2 x 7 1/2	31/6

## DUNHILLS RECOMMENDED SELECTION FROM THEIR CATALOGUE.

**DUST COVERS** (for garage), size 10' x 6', 10/- (other sizes in stock).

**SUNSPESCS** .. Pair 3/6

(cheaper quality stocked).

**BLACK RUBBER STEPMATS** .. Each 4/6

**REPAIR OUTFITS** .. Each 5/9

**TYRE LEVERS** .. Each 1/3

**MOTOR METER WINGS** .. 7/6

**SCHRADER GAUGES** .. 6/10

**BATTERY TESTERS** .. 3/-

**DASHBOARD HANDLES** .. 3/6

**SPANNER SETS** .. 3/9

**MAGNETO SPANNER SETS** .. 1/6

**POST FREE.**

**ROLLS OF CLEANING CLOTH.**

Beautifully soft and splendid for polishing. Each roll contains 50 yards. Price per roll 7/6. Post free. Cheaper quality.

**LEATHER TOOL BAGS.**

Tool Bags fitted with Lightning Fastener. The best value obtainable for hard wear and instant opening. 12" long, 10/6; 15" long, 11/6; 18" long, 12/6.

**"STADIUM" WEEK-END LUGGAGE GRID.**

A small model of Extensible Luggage Grid specially designed for carrying week-end suitcases or other small luggage on the running board. When fully extended it is 14 in. wide and stands 6 in. above the running board level. Can be closed down in a straight line with edge of running board when not in use. Easily taken off and folds into compact width of 2 1/2 in. Weight only 11 lb. Model 922—Finished in Black enamel, 6/6 each.

**"STADIUM" FLOWER VASE (Non-splash).**

An artistic FLOWER VASE with non-splash top. Can be instantly detached for emptying and cleaning. Fitted by round plate at base, and entirely rattle-proof. Nickel-plated finish, Silver Plate or Antique Oxidised finish. Model 586. Height of Vase, 4 1/2 in. 5/- each. Post free.

**LUGGAGE GRID FOR AUSTIN 7.**

Will conveniently accommodate a Suit Case or light Packages. Fitted with movable panel guard which protects Body and allows free access to Spare Wheel (when at rear) or other fittings. Can be folded up against Body or Spare Wheel when not in use—a big advantage where very small Garages are used. Price 20/-

**Send the Coupon for Dunhills free Catalogue**

**359-361, EUSTON ROAD, LONDON, N.W.1**  
2, Conduit Street, Regent Street, W.1.  
GLASGOW: 72, St. Vincent Street.

To Messrs. DUNHILLS Limited,  
359-361, EUSTON ROAD,  
LONDON, N.W.1

Please send your 250 page  
Illustrated Catalogue No.

Name .....

Address .....

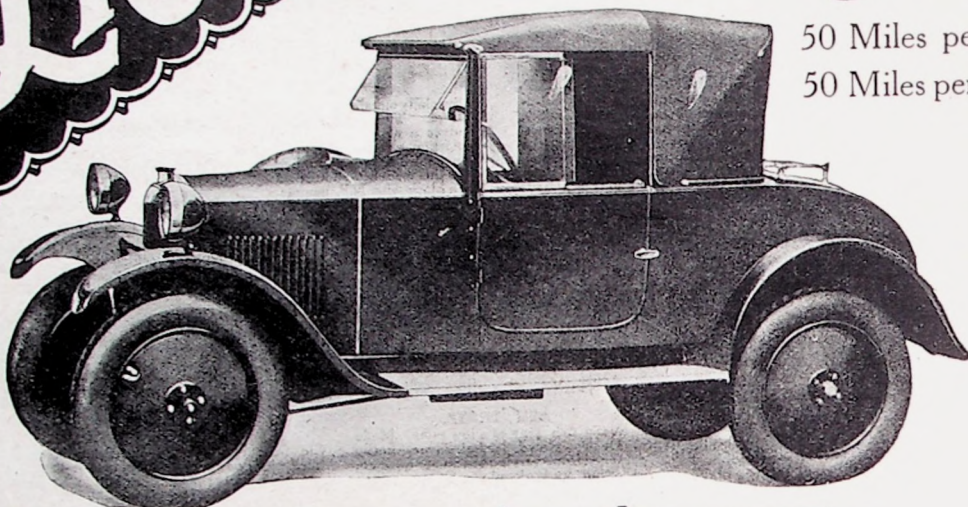
(This wonderfully useful and  
complete Catalogue sent Post  
Free.)

**TO THE READER.**—By mentioning "The Light Car and Cyclecar" when replying to advertisements, the progress of the small car movement will be assisted.

**£165** TAXI

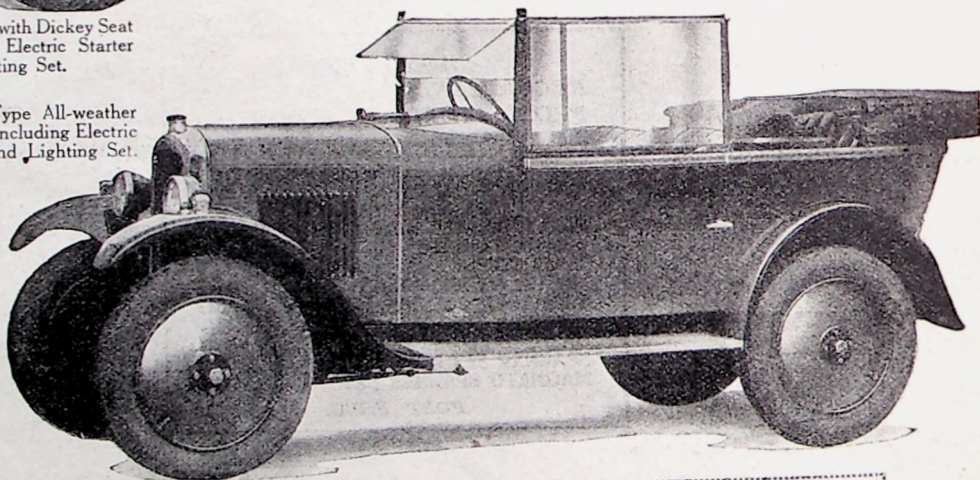
**Peugeot**  
(PRONOUNCE IT PUR-JO)

50 Miles per Hour  
50 Miles per Gallon



Cabriolet with Dickey Seat  
including Electric Starter  
and Lighting Set.

Saloon Type All-weather  
4-Seater including Electric  
Starter and Lighting Set.



## SUPREME LIGHT CAR VALUE

The Peugeot offers really remarkable motoring value. Compare these figures with those of any other car of its class!

**First Cost: £165**—a truly moderate price for a car with the sturdy construction, dainty coachwork, unflinching reliability, and consistently high performance of the Peugeot.

**Tax: £7**—here's another point in which the Peugeot scores!

**Mileage: 50 to the Gallon**—this is real economy motoring, and the extremely low running costs of the Peugeot make it doubly worth investigating when the purchase of a car is considered.

We heartily invite you to our Showrooms to inspect the range of models. Why not call in this week?

PEUGEOT (ENGLAND) LTD.  
78/80, Brompton Road,  
London - - - S.W.3.

FACILITATE BUSINESS, and ensure prompt attention to your enquiries, by mentioning  
"The Light Car and Cyclecar" when writing to advertisers. They will appreciate it.

## OUR READERS' OPINIONS (contd.).

**"Keeping-in-Tune" Articles Popular.**

With reference to Mr. Jean Surac's letter in a recent issue of *The Light Car and Cyclecar*, I do not agree at all with the suggestions which he makes, particularly those regarding articles concerning the upkeep

of various cars. Admitted, such articles are possibly of interest only to the owners of such cars, but when several different cars are dealt with from time to time this section probably interests a very considerable percentage of your readers, and there are undoubtedly others who like to compare the performances of their own cars with other makes.

True, we get details from the makers' instruction books, but it is of infinitely more interest when we get the actual experiences of those who are not interested in one make of car only.

Why Mr. Jean Surac wants a series of articles on old-time cars, even so far back as 1905, I do not know. Such articles, I am sure, can be of interest only to a very small proportion of your readers: all we are concerned with and wish to know more about is present-day cars of different make.

H. H. GRIFFITHS.

**Descriptions of New Cars.**

With reference to Mr. Jean Surac's letter in your issue of June 17th, I should like to make a few comments. I agree that greater detail in the description of new cars would be welcome, but I entirely disagree with his remarks on articles about

the upkeep of cars. I should like to see many more of these articles, as I do not think that most manufacturers deal fully enough with the subject in their instruction books, and, in any case, your articles usually contain several useful hints gained by personal experience. Again, what of the purchaser of a second-hand car where the previous owner has lost the book? Your "Information Wanted" column shows that duplicates are not always obtainable.

The suggestion with regard to articles of local interest does not appeal to me personally, but doubtless it would to many people. I feel quite sure that very few of your readers want to hear much about the scrapped relics of long ago. In conclusion, let me plead for more articles on the running and upkeep of present-day popular models and plenty of space for "Focus."

ALAN FROST.

\* We have received a large number of interesting and helpful letters from other readers on the contents of *The Light Car and Cyclecar*, but limitations of space prevent their inclusion in these columns. The suggestions made are receiving very careful consideration.—Ed.

**The Motorists' Defence Association.**

I was exceedingly interested to read Mr. Lister's letter on the formation of the above. For many years now it has seemed to me to be a ridiculous thing that whilst any casual association of impecunious and

A "Speed-limit" Day Suggested. uneducated turners, dustmen or road-sweepers has been capable of defying employers or the Government, motorists, who do not depend on motoring for a living and who have great social and financial advantages over the average trades' union member, should be incapable of action sufficiently coherent to stop persecution from public servants who, when all is said and done are paid out of funds provided by motorists themselves.

I suggest, therefore, to Mr. Lister that he should celebrate the inauguration of his proposed body by the holding of a "Speed-limit Day," on which the drivers of all motor vehicles, whether members of his organization or not, should be invited to co-operate by observing all speed limits rather more than to the letter. In this I think that he

would receive the whole-hearted support of the existing motoring organizations.

Let every motorist for one day strictly observe every pettyfoggish speed limit from Land's End to John o' Groats, and let him make a point of so doing on the track of every tramway system and immediately in front of every heavy commercial vehicle. Magistrates, nowadays, proceed to court by car, and so let it be arranged that a small car may wait for every car occupied by a magistrate and deliberately, on that day, take steps to see that its speed does not exceed the legal limit. Such a demonstration, given adequate Press support so that our tormentors may know the reasons for the iniquitous delays to which they have been subjected, should, I think, accomplish a great deal.

PERSECUTED.

**Combined Clutch and Brake Pedal.**

In my opinion, your correspondent who fitted a combined clutch and brake control to his Austin Seven went out of his way to simplify controls at the expense of reliability and efficiency. Surely after even a brief experience with such a control he must have realized that it can, at the best, be but a makeshift of benefit only to disabled drivers, and can in no way be regarded as a suitable standard fixing for adoption by the manufacturers.

As far as I can see, there is no easy method of overcoming the trouble he mentions, namely, that the engine cannot be used as a brake at the same time as the brakes applied by the pedal. There is one further difficulty that would need considerable ingenuity to overcome; when the clutch is about to be engaged, when changing gear or starting off, the brakes will be partly on. Individual adjustment of both brake and clutch would be made more difficult on most cars, in addition to which adjustments would be called for far more frequently to keep both clutch and brakes working efficiently. In view of these added difficulties, I see no real reason for the extended adoption of such a device as suggested by your correspondent.

CONVENTION.

**Apparent Inconsistencies Explained.**

In reply to the paragraph by "Focus" headed "More Anomalies," I do not think your contributor is quite right in all that he says. He asks why manufacturers enclose

A Reply to "Focus." road springs in gaiters to ensure that they retain their flexibility, and then fit shock absorbers to stiffen their action. The answer is quite simple.

By keeping the springs at a known and agreed state of flexibility, then adding the necessary shock absorber to prevent the springs reciprocating too much, one gets the best system of suspension at present known. If the springs were left uncovered and gradually rusted up, one would get a very hard-sprung car in the end.

Your correspondent then inquires why parts are plated to resist the effects of the weather. This is hardly true. Plating is put on to give a nice appearance, and plating on iron or steel is seldom absolutely rustproof; in fact, I doubt if it ever is.

Again, "Focus" asks why tyre manufacturers give us covers to give greater comfort and then recommend pressures which take away some of that comfort. The answer here is simple. If one is content to go slowly, one can have tyres very soft so that they act as wonderful bump absorbers, but if speed is wanted the tyre pressures must be sufficiently great for the tyre to regain its proper shape very quickly to make up for its rapid movement. In other words, one cannot have maximum speed and maximum comfort from tyres at one and the same time.

In regard to question of sand on tarred roads, this again is a question of compromise, and most people think the slight discomfort from the dust of the sand is better than liquid tar being splashed on to their cars. S. F. EDGE.

**NEXT WEEK**

Our Summer Number will be a greatly enlarged issue and will contain many specially written and copiously illustrated articles. Every aspect of holiday motoring will be dealt with, and the issue will form a valuable guide for holiday-makers.

Light Car  
AND Cyclecar**SUMMER NUMBER****NEXT WEEK**

Our Summer Number will be on sale on FRIDAY, JULY 8th, but readers are strongly advised to place a definite order with their newsagents beforehand to avoid possible disappointment. The price will be 3d., as usual.

# OUR READERS' OPINIONS (contd.).

## The J.C.C. High-speed Trial.

To a spectator of the J.C.C. High-speed Reliability Trial the accounts given in your journal and in *The Motor* are a little surprising in one particular. I was interested in

Class A as remotely suggesting the qualities of my own car, and it is surprising that the particular car mentioned as completing the course first appeared to me and those of the spectators in the immediate neighbourhood to be distinctly slower than some of the other cars. It would appear, therefore, that the speed which enabled it to arrive "first" in its class was demonstrated on that part of the course which lay off the track proper. A more likely explanation, however, is that the lap-scoring board—mentioned in your report as far from ideal—was inaccurate. I must admit that a close study of this, combined with observation of cars, left me completely mystified.

F. L. B. DYNE.

\* \* In our report of this event it was distinctly stated that the order of finishing given was based on observations of the lap-scoring board, and that no official confirmation was available.—Ed.

## CONDENSED CORRESPONDENCE.

In connection with the plea for cellulose finishes in the article "What of 1928?" A.C. (Acèdès) Cars, Ltd., write to point out that A.C. cars are now supplied with Durobelle cellulose finish unless the buyer specifies otherwise.

In the course of a letter on the Ostrich Inn, Colnbrook,

Mr. T. A. Millar (Streatham) writes:—"Referring to my original letter . . . I should like to emphasize the fact that the murders took place at least 100 years before the present building was in existence."

## INFORMATION WANTED.

JOWETT.—Readers' experiences of the four-seater model would be appreciated.—William Kidman, Westham, Pevensey, Sussex.

MORGAN.—Any reader who has fitted a reverse gear is asked to write giving his experiences of it to K.U., Zennor House, Whippis Cross Road, Leytonstone.

BLERIOT WHIPPET.—Any reader who has fitted a reverse gear to a belt-driven model is asked to write, giving details, to A. E. Sims, Evesham Road, Broadway, Worcestershire.

COVENTRY PREMIER THREE-WHEELER.—The chance to borrow or purchase an instruction book for the 1922 model would be appreciated.—T. H. Morsden, 67, South Road, Kingswood, Bristol.

MARSEAL.—Hints on running the 1922 sports model and the opportunity of borrowing or buying an instruction book dealing with it would be welcome.—W. A. Russell, 42, Camberwell Road, Camberwell Gate, S.E.5.

AUSTIN SEVEN.—Information on the use of aeroplane elastic as a shock absorber for both the front and rear axles of this car would be appreciated.—A. E. Ancott, 5, Daysbrook Road, Streatham Hill, London, S.W.2.

WOLSELEY.—Any owner of a 1924 10 h.p. model who has been troubled with excessive oiling-up of sparking plugs, and has found a cure, is asked to communicate with C. Hilde, Bella Vista, Park Avenue, Willingdon, Eastbourne.

# CLUB ITEMS AND SPORTING EVENTS.

## CITY OF LONDON M.A.

Entry forms for the Southern Counties trial, to be held on July 10th, can now be obtained from Mr. T. C. Coombs, 27, Allens Buildings, Leonard Street, E.C.2. The entry fee is 5s., and the event is open to the Amateur, Wood Green, London Ladies' and London clubs. The 160-mile course will be chiefly, but not entirely, on main roads, and silver cups and medals will be awarded.

## EALING AND DISTRICT M.C.C.

The following light car drivers gained awards in the London-to-Holyhead trial:—A. C. Maskell, G. C. Harris, E. L. Forge, C. J. Turner and G. H. Hilliard (Morgans). F. Broomfield (Lea-Francis), R. G. C. Schwalm (Lea-Francis), H. S. Stevens (Lea-Francis), H. E. Crupper (Alvis), C. D. Conradi (Salmon), I. J. Higgs (Salmon), C. A. Paul (Windaur), C. B. Moss-Blundell (Salmon).

## BRIGHTON AND HOVE M.C.

The following obtained awards in the Brighton and Hove M.C.'s Brighton-to-Beer reliability trial:—The Brighton and Hove Trophy: S. G. Smith (Austin Seven), Visitor Cup: S. G. Smith. The Mayor's Cup: H. C. Hamilton (Talbot). Team prize: Brighton and Hove R. team. First-class awards: J. Simpson Lee (Alvis), W. H. Bedford (Clyno), P. Jackson (A.C.), Miss I. Setton (A.C.), T. M. Z. Wright (Morris-Cowley), H. Jelferis (Frazer-Nash), C. D. Conradi (Salmon), I. J. Higgs (Salmon), G. P. Stevens (Riley), S. W. Chandler (Salmon), H. T. Pollock (Austin), J. H. B. Kenterdine (Austin), J. H. Denham (Ballot), F. A. Boggis (Morgan), H. G. Vidler (Morgan), and A. C. Maskell (Morgan). Second-class awards: Miss J. Weekes (A.C.) and E. G. Mobbs (Morgan). Third-class awards: D. Duncan-Smith (Frazer-Nash), W. A. Schooley (Brocklebank), and A. E. Burrell (Scéchal).

## LANGFORD AND D. L.C.C.

The Norman Pines Memorial Trial was held on Saturday, June 18th, the start being from Winscombe. There were 14 starters out of 19 entrants, and the course lay along main roads to Tollard, where the first check was taken, after which commenced the colonial section. A broad watersplash over 20 yards long accounted for two Austin Sevens, which stopped in the deepest part. Hawridge, the first observed hill, was in a very greasy condition and accounted for several failures. A stop-and-restart test was held on Eton Hill, and here the Austin Sevens put up a very creditable performance, while T. B. Corpe (Frazer-Nash) was very good. A check at the top of Crowcombe Hill found many competitors very late, and only seven cars succeeded in checking in at the finish at Winscombe. J. Rose (Amical) won the Norman Pines Trophy and replica, and silver medals were awarded to K. Marsh (Austin), A. J. Shipper (Riley), G. Organ (Alvis). Bronze medals went to C. Doubleday (Austin) and R. G. C. Schwalm (Frazer-Nash).

B42

## LIVERPOOL M.C.

The Colwyn Bay open speed trials will be held on July 16th. There are 16 classes, a special class for three-wheelers and three classes in which three-wheelers may compete with motor-cycles and sidecars. There are five cups to be won by cars. Entries must be sent to Mr. L. H. Lumby, 10, Seaton Road, Wallasey, on or before July 9th.

## HUDDERSFIELD AND D. M.S.C.

A skilful-driving test on a specially prepared track on Taiton Bank, Huddersfield, will be held on Saturday, July 9th, at 2.30 p.m. The event is open to members of the club, and cars, three-wheelers and motorcycles will take part. There will be a general meeting at the Cherry Tree Hotel on July 6th at 8 p.m., and it is hoped that all members will be present.

## FORTHCOMING EVENTS.

July 2.  
French Grand Prix.  
Sutton M.C. Brooklands Meeting.  
Midland A.C. Shelsley Walsn Amateur Hill-climb.  
Sunbeam M.C.C. Trial.  
Brighton and Hove M.C. Gymkhana.  
Stalybridge and D. M.C. Speed Trials.  
J.C.C. Yorks Centre. Trial.

July 3.  
French Grand Prix.  
Calford M.C. Trial.  
Sale and D. M.C. 24-hour Reliability Trial.  
Langford and D. L.C.C. Social Run.

July 4.  
Bristol M.C. and L.C.C. Lynmouth 12-hour Trial.

July 5-8.  
M.C.C. Land's End to John o' Groat's Run.

July 6.  
Bradford and D. M.C. Freak Hill-climb.

July 9.  
Grand Prix de Tourisme (Belgium).  
Sutton Coldfield and N. Birmingham A.C. Vesey Cup Trial.  
Huddersfield and D. M.S.C. Skilful-driving Test, Taiton Bank.  
Ace M.C. Speed Trials.  
Blackburn and D. M.C. Reliability Trial.  
Morgan Club. Week-end Run to Cheddar.

July 16.  
Brooklands. "Sporting Life" Meeting.  
Liverpool M.C. Colwyn Bay Speed Trials.

## J.C.C. YORKS CENTRE.

The sixth annual reliability trial for the A. 1 Greenwold Cup will be held on Saturday, July 2nd, starting from the Ring Road, Moretown, Leeds. The course, which has been arranged by Captain Trubie Moore, is definitely stated to contain no colonial sections or conditions. The first man is due to start at 11.30 a.m. and will finish at 8.45 p.m., and a good entry is expected.

## LAND'S END TO JOHN O' GROT'S ENTRIES.

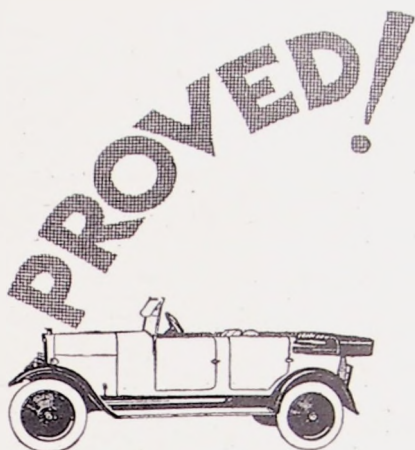
T. E. A. Johnson (1,096 c.c. Morgan).  
H. Jelferis (1,496 c.c. Frazer-Nash).  
A. J. Berry (4,224 c.c. Vauxhall).  
T. R. Berry (1,096 c.c. Salmon G.P. Special).  
J. V. Hay (1,550 c.c. Morris-Cowley).  
G. B. Palmer (1,995 c.c. Diatto).  
E. M. Douglas-Morris (3,394 c.c. Buick).  
I. C. Becker (3,394 c.c. Buick).  
H. J. O. Ripley (747 c.c. Austin).  
P. H. Manners (1,991 c.c. A.C.).  
W. L. Allen (1,991 c.c. A.C.).  
J. Richardson (747 c.c. Austin).  
T. L. Carrington (747 c.c. Austin).  
J. Mosey (2,120 c.c. Darracq Sports).

## R.A.C. PERMITS.

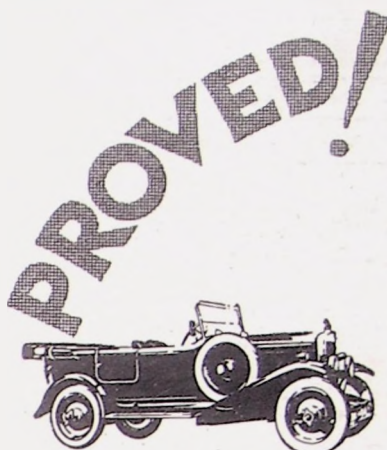
The R.A.C. has recently issued permits for the following closed events:—July 2nd, Stalybridge and District M.C. speed trials; J.C.C. Yorkshire Centre, reliability trial; July 6th, Bradford and District M.C. freak hill-climb; July 9th, Sutton Coldfield and North Birmingham A.C. Vesey Cup reliability trial; Ace Motor Club, speed trials; Blackburn and District M.C., reliability trial; July 10th, City of London Motoring Association, reliability trial; Sydenham and District M.C., reliability trial; July 12th-13th, Clatter Automobile S.C. Irish End-to-End trial; July 25th, Cheshire Centre A.C.U. race meeting; August 1st, Ipswich and District M.C.C. inter-club speed trials; October 5th, Essex County and Southend-on-Sea A.C., general reliability trial.

## SUTTON COLDFIELD AND NORTH BIRMINGHAM A.C.

The seventh Vesey Cup reliability trial for cars will be run on Saturday, July 9th. It will be divided into two sections for two classes of drivers and the premier award will be the Vesey Cup. The Watson-Gwynne Cup will be awarded to the driver of the car under 1,100 c.c. gaining a first-class award and showing the best economy of fuel in ton-miles per gallon. The Carless Cup will go to the driver of the car under 1,500 c.c. complying with the same conditions (but not gaining either of the same awards). Cars will be required to run at an average speed as laid down on the route card of 20 miles an hour, and there will be a non-stop section and a brake test. Entries close on July 2nd, and should be sent to Mr. J. Woodhouse, 10, Warwick Chambers, Corporation Street, Birmingham.



After the most exhaustive tests for speed, braking, acceleration and ease of control, the Police Authorities ordered a number of Lea-Francis Sports Models.



The 12/50 h.p. Brooklands Sports Model here illustrated is guaranteed for 70 m.p.h. on Brooklands. B.A.R.C. certificate supplied with any car on payment of track fees.

The manufacturers of Lea-Francis cars make no claims which they are not able to prove up to the hilt, hence the guarantees. And in addition to this proved performance, you have, with all Lea-Francis models, economy of running, comfort, ease of control and a refinement of line which place them far ahead of other makes of cars selling at equivalent prices. We invite you to test a Lea-Francis for yourself. Write for a trial run.

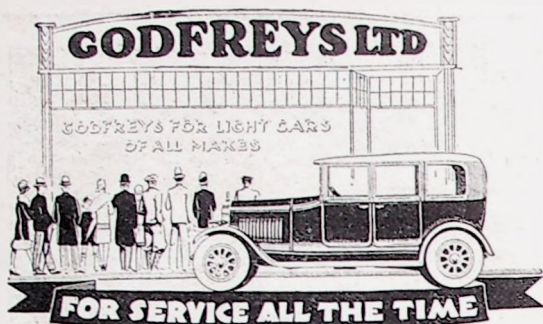
MODELS.— 10 h.p. from £210, 12 h.p. from £285, 12/40 h.p. Sports from £370, 12/50 h.p. "Brooklands" Sports £425; also Coupé and Saloon Coachwork.

DEFERRED PAYMENTS AND EXCHANGES  
LEA & FRANCIS · LTD · COVENTRY  
LONDON SHOWROOMS: 118 GT. PORTLAND STREET, W.1

Museum 8720

# LEA-FRANCIS

WHEN REPLYING to advertisements, mention "The Light Car and Cyclecar." It helps the advertiser and you, and assists the small car movement generally.



## Motoring without financial anxiety is Godfreys motto

When you buy a car, whether it is your first or your sixth, be sure you get *the right one*. It never will be right if it involves any financial anxiety.

So come along to Godfreys. Inspect the comprehensive range of cars assembled there. Get the expert and disinterested advice Godfreys always give *before making your choice*.

The financial aspect of the question will be settled to your entire satisfaction. Godfreys Deferred Payment System is elastic, strictly private, and adaptable to your special needs. Because it is financed by Godfreys themselves, it makes no troublesome inquiries and asks for no personal references. Godfreys SERVICE knows no mere customers but thousands of good friends who use no empty shibboleth when they urge you to

**Deal with GODFREYS  
and get satisfaction!**

**AUSTIN  
CITROEN  
CLYNO  
LEA-FRANCIS  
PEUGEOT**

**RENAULT  
RHODE  
SINGER  
TROJAN  
&c., &c.**

# GODFREY'S

**LIMITED**  
*for Cars*  
*and satisfaction*

**366368, Euston Road  
London, N.W.1**

Telephone: MUSEUM 3401 (3 lines).

North London Branch:

**232, Stamford Hill, N.16**

Telephone: CLISSOLD 7127.

Hours of business at Stamford Hill: 9-6. Thursdays 9-1.

Deferred  
Payments  
arranged.  
Part  
Exchanges.  
Trial runs  
without  
obligation.

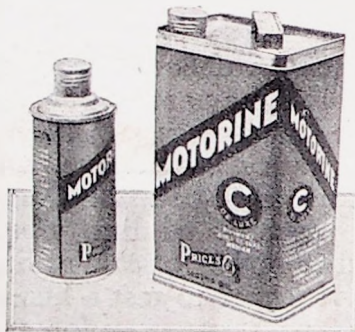
## AROUND THE TRADE.

A handsome booklet, entitled "Oil: An Imperial Asset," has been produced by Shell-Mex, Ltd., Shell Corner, Kingsway, London, W.C.2, who will be pleased to forward copies to interested readers.

During the month of July, Dunhills, Ltd., will be holding a special sale at 2, Conduit Street, W.1, of French model leather coats, tweed coats, costumes, raincoats and millinery, and all prices will be reduced. This should be of particular interest to women motorists.

Waydicator, Ltd., the manufacturers of "Way" accessories, Oakley Road, Small Heath, Birmingham, are marketing a combined shock absorber and rebound damper for Jowett cars. The fittings, which are priced at £3 3s. a pair, are strongly and sensibly made, and only one pair is necessary for a car.

Fort Dunlop inform us that Nuvolari, who came first in the Grand Prix de Rome, was running on Dunlop tyres, as were the 1st, 2nd and 3rd cars in the 1,500 c.c. class. The Dunlop Co. tell us also that 76 per cent. of the entries in the solo, sidecar and three-wheeler classes of the London-Edinburgh run were fitted with Dunlop tyres.



Two of the attractive containers in which Price's Motorine oils are now marketed.

The B.E.N. Patents, Ltd., 92, Tottenham Court Road, London, W.1, are circulating amongst the trade a leaflet which gives what they state to be probably the first authentic figures from two disinterested concerns, showing the large saving in time and water which can be effected by the B.E.N.-Myers' car washer.

Postans and Morley Bros., Ltd., Trevor Street Works, Birmingham, have increased their range of colours in enamel brushing lacquers, but in quart-size tins only. Colour sheets are available on loan for those who desire to select any of these colours for car painting and special instruction books are also obtainable.

We learn that the exclusive licence for the manufacture and sale of the Dewandre vacuum servo for automobiles in the United States of America and Canada has been granted to the Westinghouse Air Brake Co., Pittsburg, U.S.A., who therefore stand in the same relation for those countries as Clayton Wagons, Ltd., do for Great Britain and Ireland and all British Colonies (excepting only Canada), Protectorates and Dependencies.

A novel method of advertising the cars for which they have agencies has been struck by the Service Co., Ltd., 273-274, High Holborn, London, W.C.1. It takes the form of a pocket booklet entitled, "The Diary of a Car Tester Employed by the Service Co., Ltd." In addition to full specifications and prices of the various models, comments made by "the tester" give a personal touch different from the usual extravagant claims of advertisers.

**READERS, NOTE.**—It assists the small car movement and the advertiser, and ensures you prompt attention, to mention "The Light Car and Cyclecar" in your enquiries.

## SUCCESSFUL ENDEAVOURS OF S.P.C.M.

### RUNNING FREE FROM CARE — EVERYWHERE.

The effects of the recent prosecutions by the Society for the Prevention of Cruelty to Motors are everywhere noticeable. Each week-end brings a string of happy cars along every highway, proudly displaying their very best endeavours and pulsating with thanks to the kindly and far-seeing owners who now give them Adcol New Process Oil.

A n y groans? Not even on the steepest hill. The Singing Singer's smile is a joy to be compared o n l y



THE SINGING SINGER'S SMILE

with the frolics of an ancient Ford that is revelling in a new found lease of life. Sparking merrily from the cleanest plugs they have ever had, each and every car, of every brand and make, career gaily on their respective ways.

And what do the Society's inspectors do now, poor things? Cases of cruelty to cars are hard to find now that almost every one is using Adcol. Here and there inspectors gather in little groups, talking of their past cases and wondering where their next one is coming from.

Only last week one of the Society's best known inspectors was arrested on the mistaken supposition that he was merely loitering. When he explained, at the police station, that he had little to do these days since most motorists are now using Adcol and in consequence cases of automobile ill-usage are few and far between, he was released with apologies. But he confessed later to a friend that he would have been locked

up for a while if he could have had his choice as it would have relieved t h e m o n o t o n y of his daily round among perfect motorists.

ARRESTED FOR LOITERING.

#### MR. W. HEATH ROBINSON.

A remarkably interesting and informative booklet on lubrication and other problems for car owners is specially issued by Messrs. Alexander Duckham. It is entitled "Technical Talks" and is illustrated by Mr. W. HEATH ROBINSON, the world-famous humorist, in his own inimitable style. A copy will be sent on receipt of a postcard addressed to Messrs. Alexander Duckham & Co., Ltd., 6, Broad Street Place, London, E.C.2.

## WHAT ABOUT IT—

The performance of the AUSTIN SEVEN is remarkable, but are you quite satisfied?

Have you not often experienced whilst out for a run the longing for a still better performance? To take your pet hill flying on top gear instead of the usual second, and then to get that startling acceleration which is almost like a racing car? To have just that extra power and speed for the long straight stretches on the new arterial roads?

We can give you this extra performance.

Our racing experience has taught us many little tricks with the Austin Seven, which when applied to your car will give it a performance which will amaze you but which at the same time will in no way upset its reliability.

We have now evolved a scheme whereby this work can be done in two to three days so that the cost is kept extremely low. We also decarbonize your engine at the same time, which does not involve extra cost.

Write for particulars.

## Boyd-Carpenter & Thompson Ltd.

47, WEST END LANE, KILBURN, N.W.6.

Hampstead  
4977

DO NOT HESITATE to send your enquiries to "The Light Car and Cyclecar."



## Up and down all day long

Up and down the cylinder, subject to great heat and stresses—is it any wonder that many piston rings give up the ghost after a short life? But you do not find that with BRICO Piston Rings for very good reasons. Made from centrifugally cast iron, specially heat treated and tested to ensure perfect accuracy, they stand the strain, retain their elasticity, and ensure a maximum degree of compression for a very long time.

There's a Brico Ring for every engine sold by all Garages, Dealers and Agents. Manufactured by The British Piston Ring Co., Ltd., Coventry.



## RINGS WILL STAND THE STRAIN

H.P.

Fitted for  
Oil or Grease  
Lubrication as  
preferred.

AUSTIN, 7 h.p., 27/6 per set.  
CITROEN, 7 h.p., 30/- " "  
FIAT, 7 h.p., 50/- " "  
CLYNO - - 63/- " "  
SINGER Junior, 30/- " "

Post Free.

## Quick Fit Gaiters

FOR ALL CARS

W. DICKINS &amp; CO. LTD. Cross Cheaping COVENTRY

Manchester Depot, 288, Stockport Road.

## Goddard's Garages.

Send  
for  
Lists  
Post  
Free.Sent  
Curr.  
Paid  
England  
and  
Wales.

Built of best 1" T. & G. Matchboards on six pc framing  
in complete sections, roof 1" Matching and Bitumen Felt.  
12 ft. x 8 ft. x 6 ft. x 8 ft. ... £10 5 0  
14 ft. x 9 ft. x 6 ft. x 8 ft. ... £11 10 0  
16 ft. x 9 ft. x 6 ft. x 8 ft. ... £12 15 0

GODDARD'S Ltd., Vicarage Lane, Ilford, ESSEX.

## MAGNETOS

Makers: The M.L.  
Magneto Synd.  
Ltd., Coventry.  
Inquiries to  
S. Smith & Sons  
(M.A.) Ltd.,  
Crickwood  
Works, London,  
N.W.2.



For all Makes of Light Cars,  
Bicycle, Tyres, Oils, Accessories, etc.  
—SERVICE STATION— —SERVICE DEPOT—

434 EDGWARE RD  
LONDON W.2  
PHONE: - PADDINGTON 9920

## G · N

SPARES—REPAIRS—REBUILT G.N.'s

Owners and Trade write for free catalogue.  
GODFREY & PROCTOR LTD.,  
MANOR ROAD, RICHMOND, LONDON, S.W.  
Phone—Richmond 3024.

## CELAMEL

## CELLULOID

### Brushing Lacquer

1. Anyone can use it. We issue a special instruction book containing full directions.
2. You can paint your car in the morning and drive it in the afternoon.
3. Each coat of CELAMEL DRIES in less than ONE HOUR, when a further coat can immediately be brushed on.
4. On wings you can get a finish superior to stove enamelling and superior to coach painting on bodywork.
5. You must have the CELAMEL SPECIAL VULCANIZED BRUSHES and the CELAMEL RUBBING PAPER to get the finish.
6. Obtainable through all Motor Accessory Dealers, but if your local dealer does not stock, order direct C.O.D. from the Sole Manufacturers (see address below). No charge for packing or postage.

### NOW AVAILABLE IN A WIDER RANGE OF COLOURS

CELAMEL Black, Colours and Glaze (or Varnish).	Celamel Rubber Set Vulcanized
7/- Tins. Approx. 1 pint.	Brushes.
13/- " " 1 quart.	1 in. 1/6
25/- " " 1/2 gall.	2 in. 2/-

### CELAMEL SPECIAL RUBBING PAPER.

For rubbing down on last coat of Celamel to remove traces of brush marks. 6d. per sheet.

### New Booklet! Price 3<sup>d</sup>.

Send 3d. stamps today  
for a copy. It tells you  
how to

### COVER YOUR CAR WITH CELLULOID

and make a first-class job in a quarter of the time taken with ordinary enamel. Booklet obtainable only from the Sole Proprietors and Manufacturers of CELAMEL, POSTANS & MORLEY BROTHERS LTD., Celamel Works, Trevor Street, Birmingham. (Also Sole Manufacturers of Rollamit)

# COIL IGNITION *helps* the battery



ELCO-REMY Coil Ignition is an actual help to the battery for two reasons.

1. With Coil Ignition less current is required to operate the self-starter, owing to the instant spark, whereas with other forms of ignition, considerably more current is taken from the battery before an equivalent spark is obtained.
2. Once running, the current continuously created by the running of the car is being drawn upon throughout the whole run, preventing that overcharge—with consequent danger of buckling plates in the battery—inseparable from any other form of ignition.

Write for Free Booklet, "Specifications  
DO Count."

## THE DELCO-REMY COIL IGNITION SYSTEM

DELCO-REMY & HYATT LTD.,

— Engineers —

Head Office & Works:

111, GROSVENOR ROAD, LONDON, S.W.1.

Telephones:  
FRANKLIN 6446, 6447, 6448 6 49  
(4 lines.)

Telegrams:  
DELREMHYAT CHURTON,  
LONDON.



PLEASE REFER TO "THE LIGHT CAR AND CYCLECAR" IN YOUR LETTERS TO ADVERTISERS.

## AUSTIN TOURS

## ELY CATHEDRAL

Ely Cathedral was begun by Abbot Simeon in 1083. It includes every style of architecture from Early Norman to Late Perpendicular. The fine Galilee porch was completed at the commencement of the 13th century. The beautiful decorated octagon tower and lantern (170 feet high) was finished in 1328.

HOW TO GET THERE FROM  
NEWCASTLE.

Take the main road through Durham to Darlington, thence by Thirsk, York, Doncaster, Newark, Grantham, Stamford, and Huntingdon to Ely. Return by King's Lynn, Holbeach, Sleaford, Lincoln, East Retford, Bawtry, Wetherby, Darlington, and Durham.

|| This journey costs less than 3rd class rail fare—on an

*Austin  
Seven*

at Works

**£145**

AUSTIN MOTOR COMPANY, LTD.,  
LONGBRIDGE - - - BIRMINGHAM.

London Showrooms:  
479-483, OXFORD ST.,  
W.I.

