

# If

a better plug could be  
made it would still be a

**Beware of war surplus plugs.**  
Do not buy any plugs for your  
car unless packed in Lodge  
sealed metal boxes.

Lodge C3.  
sold everywhere.

**5/-**  
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.**

SEE THE NAME "LODGE" ON EVERY PLUG IN YOUR ENGINE.

*Luxury Motoring in All But Cost*

An 11·4 h.p.

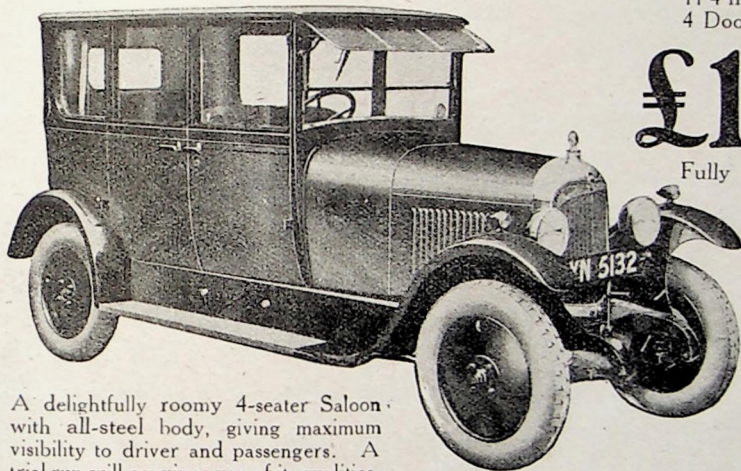
**CITROËN**

4-Door SALOON or 3-Seater COUPÉ

11·4 h.p. Saloon,  
4 Doors, F.W.B.

**£198**

Fully Equipped.

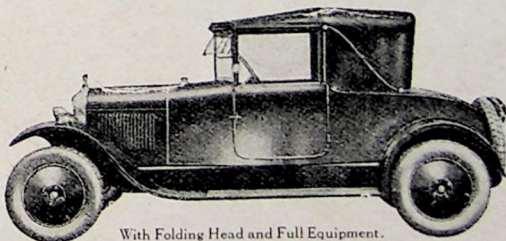


A delightfully roomy 4-seater Saloon with all-steel body, giving maximum visibility to driver and passengers. A trial run will convince you of its qualities.

11·4 h.p. Coupé  
Three-seater

**£190**

The most inexpensive  
"quality" Coupé on the  
British market to-day.



With Folding Head and Full Equipment.

**DEFERRED TERMS and PART EXCHANGES from ANY ONE  
OF THE 500 CITROËN AGENTS**

*Send for the Citroën Book 18.*

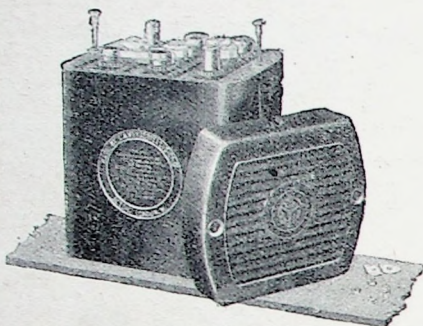
**CITROËN CARS LTD.,**

CITROËN BUILDING, BROOK GREEN, HAMMERSMITH, LONDON, W.6.  
Showrooms: Devonshire House, Piccadilly, W.1. WORKS: SLOUGH, BUCKS.





## THE WORLD'S BEST BATTERY



Telephone:  
CHISWICK 3801.  
(Private Branch Exchange.)

**C.A.V. Vandervell & Co. Ltd.**  
ACTON, LONDON, W 3

SALES AND SERVICE DEPOTS AT  
Belfast, Birmingham, Bristol, Coventry, Dublin, Glasgow, Leeds, Manchester and Newcastle.

The direct results of 36 years' constant endeavour, continual research in the laboratory, tests in the works, and on the road, are all embodied in the present C.A.V. Battery, which is universally recognised as the ideal standard of battery construction for any make of car, whether British, French, Italian or American.

We honestly believe that in the latest C.A.V. production, the multi-plate battery with THREADED RUBBER INSULATION, in our ALL-MOULDED CONTAINER we have achieved something definitely better than has ever been offered to the motoring public.

Write for folder 485/L and let us quote for your next replacement.

### EXAMPLE SIZE:

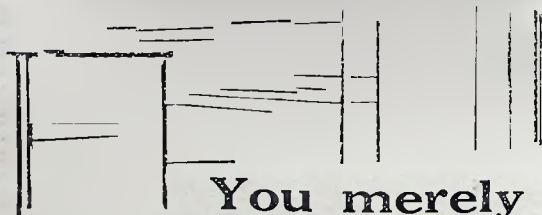
Type 6TW9 .. £3-5-0 suitable for Austin 7.

Overall dimensions—Length 7½", width 6½", height 9½".  
If required, cover and fixing rod can be supplied at extra cost.

### Telegrams:

"Vanteria, Act, London."

## Ready-to-Erect Garages Wood or bestos from



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. Size: 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).



SHOPS from  
£21

New Army Huts

FROM  
£9

Send  
for  
free  
Folder



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



JULY 29, 1927.

LIGHT CAR AND CYCLECAR



Messrs. Jowett Cars Limited.

27, Fair Street, Tower Bridge,  
LONDON, S.E.1.

Dear Sirs,

I feel I must write you again re my SALOON.

Last Saturday a friend and I left here (The Tower Bridge) with the back part of car well loaded at 5.15 a.m. The writer driving and arrived in Seaton, Devon, at 11 o'clock a.m. about 164 miles after a call. We travelled to Weymouth and back to Tower Bridge by 10.35 p.m. having covered 345 miles, using 7 gallons petrol (B.P. Commercial.)

A wonderful performance, our speed was often 50 and 45 per hour and it seemed without effort. The driver was fresh and without feeling any effects of aching hands and arms. We must have used about 4 hours in stops during this time.

I am more than proud of the bus and thank you again for producing such a wonderful machine.

You can use this letter in any way you like to further the sale of Jowett Cars.

Faithfully yours,

ERNEST U. MALLETT.

Over 49 miles to the gallon and on Saloon. All our models are built save your money, and they do!

Short two, £139. Long two, £150. Chummy, £145  
Full four, £150. Saloon, £185.

Dunlop Balloons and Stewart Speedometers standard.

JOWETT CARS LTD., IDLE, BRADFORD

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



"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.

Player's  
**Country  
Life**  
TOBACCO

COUNTRY LIFE 1/0 1/2 per  
(Mild and Medium) oz.  
COUNTRY LIFE 11 D. per  
(White Label) oz.

C.L. 176

The Laystall Cylinder Regrinding Plant is the largest in the World

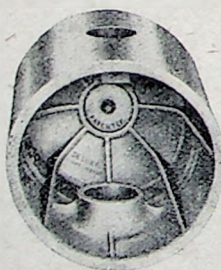
The very best  
for  
**Racing & Sporting  
Cars**

THE DE LUXE  
Sports  
ALUMINIUM  
PISTON

THE LIGHTEST  
AND STRONGEST  
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, FONTENOY STREET, LIVERPOOL

TO KNOW ABOUT

the Scientific Sparking  
Plug Attachment.

(World-wide Patents and Provincial Patents.)

"Auto-Clx" does away for ever with plug terminals. No more screwing and unscrewing, loss of time, lost terminals, electric shock or dirty hands. "Auto-Clx" gives instant connection or disconnection.

"Auto-Clx" enables you to test plug with the greatest of ease and without stopping the engine.

"Auto-Clx" acts as a thief-proof device. By withdrawing the scientific resilient the engine is rendered unstartable. We do not wait to ascertain why.

An illustrated descriptive folder awaits your postcard now!

EACH

4/- per set of 4.

Complete with  
1. Adapter.

2. Resilient Non-Vibratory Plug and Insulator, Nickel-Plated.  
Of all Dealers or direct from

**ELECTRO LINX LIMITED.**

MOTOR DEPT.

Manufacturers of Clx Radio Fitments.

254, VAUXHALL BRIDGE ROAD, LONDON, S.W. 4.

Telegrams: "Trollox, Churton."  
Telephone: Victoria 5100.

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





# **STERNOL WW**

*The Super Motor Oil*

## **LEND'S WINGS TO YOUR CAR**

**SPECIAL VOLTOLISING PROCESS ENSURES  
UNEQUALLED ENGINE PERFORMANCE**

By using Sternol WW you will find a difference, a *marked* difference, in the behaviour of your car. It will have a greater liveliness on hills, consequent upon the special voltolising process through which every drop of Sternol WW passes, you will need less gear changing, and you will find that starting up is easier. And, after many thousands of miles, you will find negligible carbon deposit.

# **Sternol WW**

**MOTOR OIL**

**IN FOUR GRADES: LIGHT—MEDIUM—HEAVY—EXTRA HEAVY**

***Makes Engines Purr Like Pussies***

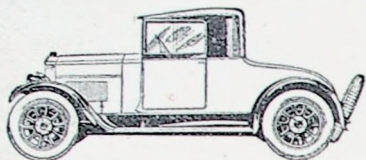
**STERNS LTD., 46, ROYAL LONDON HOUSE, FINSBURY SQUARE, E.C.2**

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.



## Be fair to Yourself

See that you buy your car from a well-known established firm.



# TAYLORS

**E**VERYTHING Motorish for the Motorist is a slogan we have used for nearly 20 years, and it sums up in a few words the comprehensive nature of our business. At our Spacious Kensington Showrooms you will find the latest models of most of the popular makes arranged in such a way that you can examine them at your leisure, and generally compare one fine make with another, and so, by the sound process of elimination, make a really good choice. Trial runs we are always delighted to give, and under no circumstances will you be pressed to buy.

WE SUPPLY any make of car upon the market to-day on the following EASIEST OF ALL PAYMENT TERMS:—

## NO DEPOSIT

The car of your choice will be delivered to you against the first of twelve equal monthly instalments. No deposit, as has always been required in the past is asked for.

Whatever make of car you buy at Taylors you get more than a good car at the right price and upon the easiest of terms. You get Taylor's Inspection Service FREE. This Service is invaluable to all purchasers of new cars, for it ensures you getting the utmost service and satisfaction which the car you have chosen is capable of rendering.

### USED CAR SNIPS.

STANDARD, 1926, 11 h.p., 2-seater .. ..	£127 10 0
F.I.A.T., 10 h.p., 2-Seater .. ..	£75 0 0
CITROEN, 1924, 10 h.p., Coupe .. ..	£87 0 0
AUSTIN 7, 1926, Chummy, late type .. ..	£107 0 0
ROVER 8, 2-Seater .. ..	£25 0 0

**EXCHANGE**—We have an excellent market for used cars, let us take yours in part exchange for a new model.

You really should write for a copy of our new 1927 44-page Buyer's Guide, for it tells you all about our liberal "Service after Sale" as well as containing invaluable information which every motorist ought to possess—this fine illustrated guide is FREE for the asking.

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

May we send you a detailed list?

## H. TAYLOR & Co., Ltd.

49, 50, 52 & 53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.7.  
Phone: Kensington 8568/9 and 5540. Grams: "Dynametro, Southkens."

## "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., 4d., 7d. & 1/3; also in 1/2 & 1 Gallon Cans.

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

## PRATTEN'S 'Big Three' Garages



**E**ACH 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.

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

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' 9" £15 5 0

16' 0" x 8' 6" x 6' 9" £16 10 0

Full specifications contained in folder No. 37. Other designs illustrated and described in this Catalogue No. 38, post free.

Illustration of "Duplex" Joint which shows how boarding is weatherproof.

F. PRATTEN & CO., LTD.,  
12, Midsomer Norton, near Bath.





# **The greatest achievement in the history of the Rhode Motor Company**

## **THE NEW 10·30 RHODE SALOON**

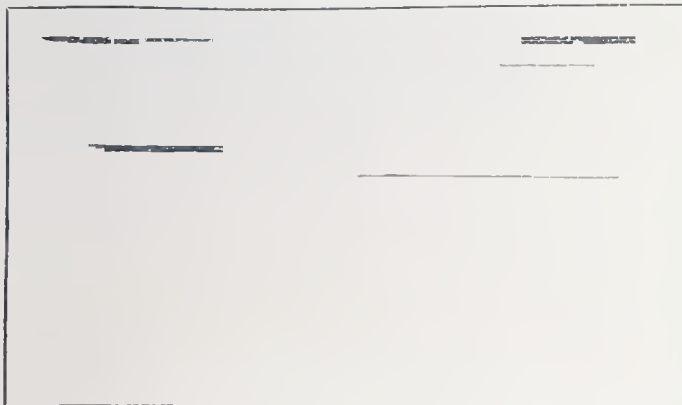
**An entirely new  
development in Saloon  
Car Construction  
embodying exclusive  
Features patent to  
the Rhode only.**

**A complete announcement  
will appear in this  
paper shortly.  
Advance information  
willingly supplied on  
request.**

*Rhode*

THE RHODE MOTOR CO., TYSELEY, BIRMINGHAM.

# ELEPHANT BUMPERS for all LIGHT CARS



**RECOGNISED THE ONLY BUMPERS THAT MATTER TO-DAY.**

Made of the highest grade Sheffield Spring Steel, carefully tempered and highly finished. Special gunmetal brackets supplied for any make without drilling chassis frame.

Prices from  
**£3 : 15 : 0 to £5 : 10 : 0**  
Including Special Brackets.

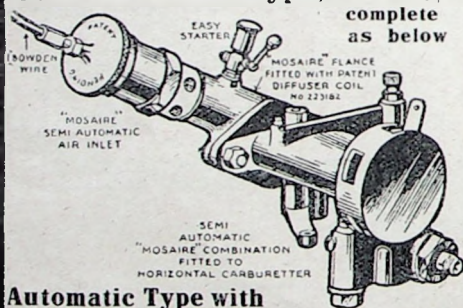
Arrangements have been made by us at Lloyd's for 10% reduction on the insurance of cars fitted with "Elephant" Bumpers. Particulars on application.

Special Model for Austin 7, back or front, **£2 : 15 : 0**. Fitted in a few minutes, without drilling frame.

**Elephant Motors Ltd.**  
Elephant House,  
97, 99, 101, Newington Causeway,  
London, S.E.1.

Phone Grams Hop 7076-7-8.  
Multinart, Sedist, London.

**Semi-Automatic Type, Price 35/- complete as below**



**Automatic Type with Rubber Diaphragms, Price 40/- complete**

**Fit The "Master" Extra Air Valve on 30 days' Free Trial, 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:  
Ashton Engineering Co. Ltd., Floodgate St., Birmingham.

Hand-operated model with Patent Diffuser Coil as above.  
**Price 30/- Complete.**

## HOMAC'S, LONDON'S LEADING MORGAN SERVICE HOUSE

OFFICIALLY APPOINTED BY  
THE MORGAN MOTOR CO.

Invite you to try a Morgan from their huge range before you come to any final light car decision.

Catalogue on request. DEFERRED TERMS.



DE LUXE MODEL.  
Air-cooled £110 : Water-cooled £120

**HOMAC'S**  
MOTOR AGENTS

AERO MODEL.  
Side Valve £127. O.H.V., 10/40 h.p., £140

TRADE SUPPLIED.  
ALL SPARES IN STOCK.

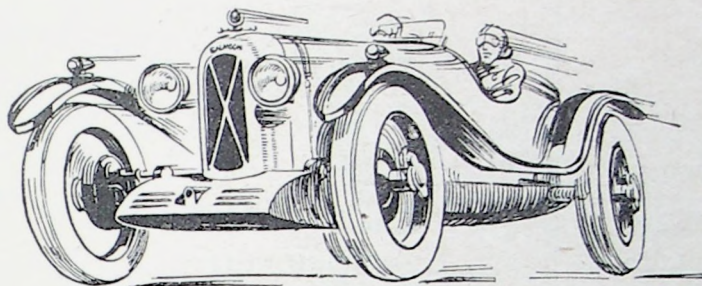
243/7, LOWER CLAPTON ROAD.  
Works: 46, London Road, Clapton, E.5.  
Phone: Clisold 2408.

EXPERT REPAIRS  
BY SKILLED  
MORGAN MECHANICS.

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



## *Don't waste time—*



looking for another car to compare with the SALMONSON Grand Prix Model at £275—there isn't one. In most cases "comparisons are odious"—in this case there is no comparison. If this model does not suit you, there is a type of coachwork for every need and purse. All that is necessary is to call at the show-rooms or service depot, inspect the range of models, make your decision—and your August holiday is an assured success.



*Sole London Distributors:*

GORDON WATNEY & CO., LTD., 31, BROOK ST., W.1.

*SOLE CONCESSIONNAIRES FOR UNITED KINGDOM AND BRITISH DOMINIONS:*

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

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



## Special Features of this week's issue

# The Motor

**Tues., July 26th.**

### \* NEXT WEEK!

(Published on Wednesday,  
August 3rd.)

MAKING A STANDARD  
MODEL DISTINCTIVE.

AN INTERESTING TWO-  
STROKE ENGINE.

THE VARIOUS METHODS  
OF PLUG TESTING.

DRIVING METHODS WHEN  
TYRES PUNCTURE.

FREEING THE GEARS  
BEFORE ENGAGEMENT.

#### A CAMPING HOLIDAY.

With Motor Car and Caravan in Dorset and Somerset.

#### A LUXURIOUS MOTOR ROAD YACHT.

An Impressive Motor Vehicle which accommodates Fourteen  
Guests and Resembles a Flat on Wheels.

#### A NEW MOTORING SPORT AND PASTIME.

#### WHERE SHOULD THE GEARBOX BE?

Saving Weight by Combining it with the Rear Axle.

#### THE TALE OF TWO SPEEDOMETERS.

How the Performance of a Car was "Improved" to the  
Lasting Satisfaction of Its Owner.

#### THE DIARY OF A MOTOR TRAMP.

Nearing the end of a 10,000 mile Continental Tour.

#### GETTING THE BEST OUT OF A 12-24 H.P. CITROËN.

Hints on Care and Maintenance.

#### A NEW VACUUM SERVO BRAKE.

An Interesting Device of Particularly Simple Construction.

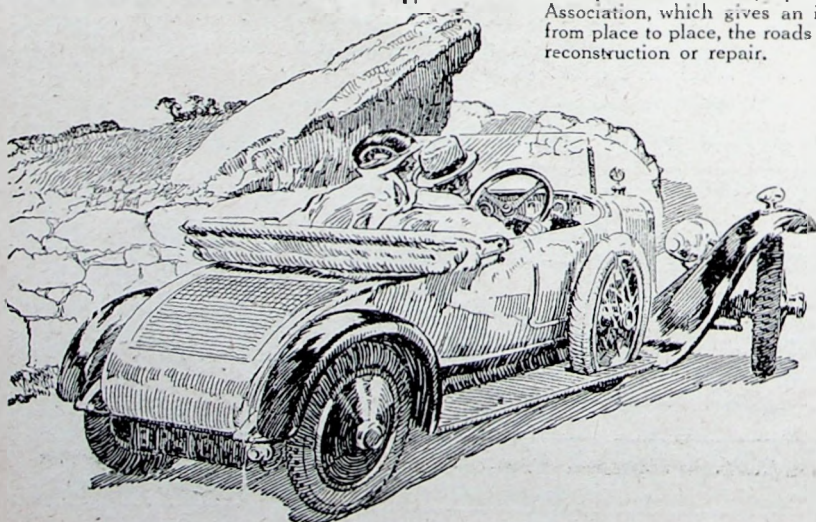
#### ROAD TESTS OF THE 16-65 H.P. SIX- CYLINDER LAGONDA AND THE 10-25 H.P. ROVER.

#### HOLIDAY ROAD INFORMATION.

A Map of Great Britain, especially prepared by the Automobile  
Association, which gives an indication of the best main roads  
from place to place, the roads to be avoided and those under  
reconstruction or repair.

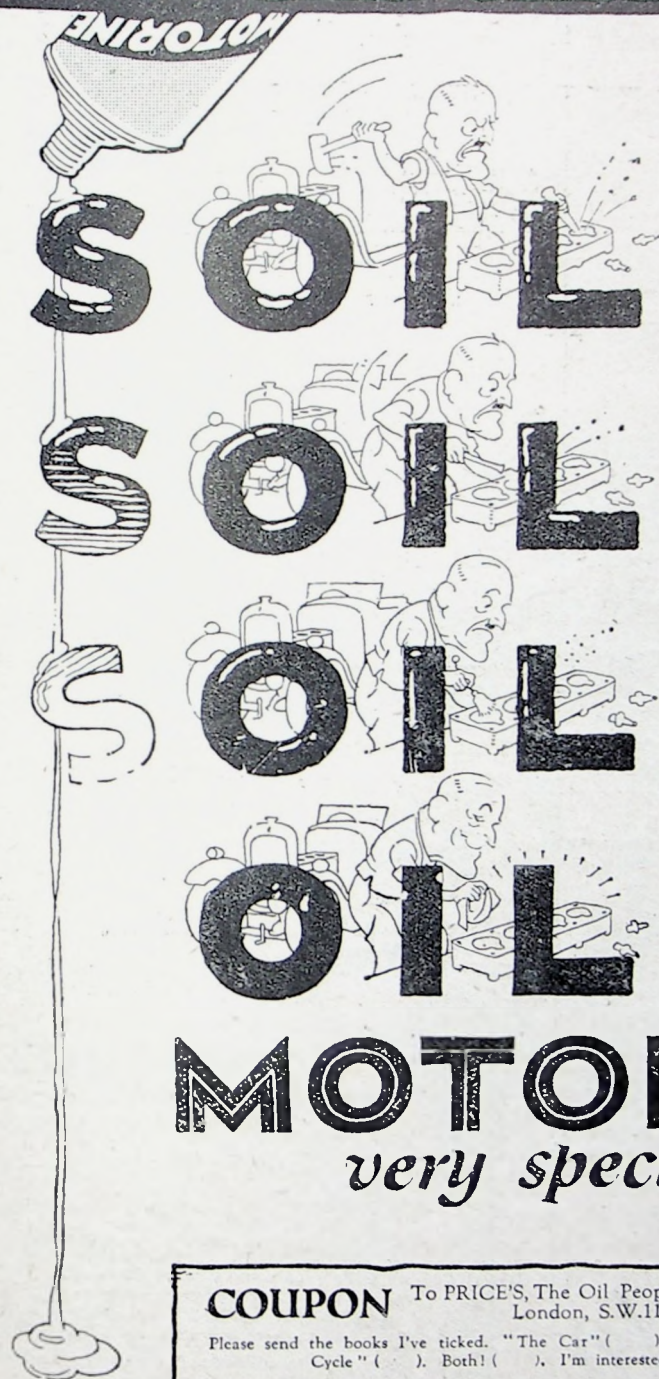
**EVERY  
TUESDAY  
4<sup>d</sup>.**

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





# TAKING THE "S" OUT OF "SOIL"



Carbon. Soot. Coke. You'll get it, all right. Road dust, for instance, will get in. The finest oil leaves a residue. BUT—use the right grade of Motorine and you get less of it. Much less. There's the simple fact.

Send a p.c. for the book, "The Car" (or, if you're a motor-cyclist, "The Motor Cycle"). Both are free and post free from Price's, the Oil People (Dept. EE.16) London, S.W.11.

You are also 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. EE 16) 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.



# Solid Facts! are Stubborn Things!

An instance of the amazing change wrought in a Car by the



An 11 h.p. 4-seater Car was recently fitted with a "B & B" Carburetter with the following results—

## With the —

Consumption was 38 miles per gallon.

Lowest speed in top gear was 12 m.p.h.

## With the "B & B"

Consumption was 46.7 miles per gallon.

Lowest speed was 6 m.p.h. in top without slightest signs of "knocking."

The owner of the car added the following points of note—

The need for changing down in traffic is tremendously reduced.

Engine is far more silent.

Far livelier in acceleration and deceleration.

Fulllest details given on request, as also terms of our 30 days' money-back guarantee—enabling you to

Prices from —  
£3 - 15 - 0

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

YOU CAN GET IT  
HERE  
BY THE HALF OUNCE  
FOR ONE PENNY  
WHICH TREATS ONE GALLON.

### PUT IT IN YOUR FUEL.

These are now installed alongside over 200 Petrol Pumps through England, Scotland and Wales.

4 oz. Tin 1/- Postage 2d. extra.

Flat oval shape for tool box.

8 oz. Tin 1/9 Postage 3d. extra.

16 oz. Tin 3/3 Postage Free.

32 oz. Tin 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.

### 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.

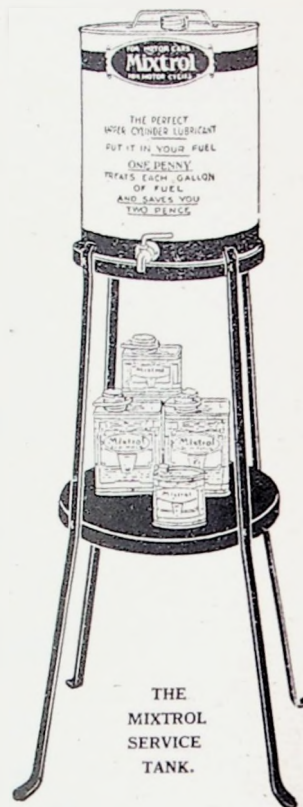
CURES SQUEAKY VALVES.

Write for Explanatory Booklet, Free.

THE MIXTROL OIL CO.,  
43, Berners Street, LONDON, W.1.

Telephone—Museum 4014.

Telegram—“Oilmixrol, Wemlo.”



## Way

## OUR USED CARS ARE GUARANTEED

AUSTIN, 1927, 7 h.p. Chummy Models Immediate delivery	£145
" 1926, 7 h.p. 2-seater Coupe .. ..	£125
" 1926, 7 h.p. Chummy .. ..	£110
" 1925, 7 h.p. Chummy .. ..	£95
" 1925, Sports Model .. ..	£110
CITROEN, 1926-25 Models, from .. ..	£50
CLYNO, 1925, 2 and 4-seaters, from .. ..	£85
FIAT, 1925, 10/15 h.p. 4-seater Saloon .. ..	£165
ROVER, 1925, 9/20 h.p. 4-seater, excellent condition .. ..	£110
STANDARD, 1924, 11/4 h.p. 2 and 4-seaters, from .. ..	£75
WOLSELEY, Several 10 h.p. 2-seaters and Coupes, from .. ..	£50

100 OTHER BARGAINS from £50 to £250.  
Best Exchange and Deferred Terms in London.

You never take a risk when buying a Used Car from

404, 410-414, EUSTON ROAD  
LONDON, N.W.1.

'Phones - - - Museum 3081, 2122 and 0140.



## OF THE ROAD

You, Sir! come and tell me that your car sways and does not hold the road; you say your steering is heavy, and ask for advice after I have been preaching to you on the STOTT ANTIBOUNCE CLIPS!!!! No, Sir! they are not expensive; in fact, read what this user says. These are just extracts from his testimonials. Yes, you can see the original copies if you wish.

"They do all you claim for them, immediately the car holds rough roads  
 "better, high speeds are possible over rough stretches, the steering  
 "was noticeably easier. The price is an important point, too, but  
 "above all they are effective at all speeds without constant adjustment."

The STOTT ANTIBOUNCE CLIPS cost  
 only **11/6** per pair.

*Send along for full particulars.*

**RICHARD BERRY & SON**

Mafeking Road, SMETHWICK.

'Phone: Smethwick 631.

'Grams: "Springs, Smethwick."

**I**

**11/25 h.p.**

Tax £11.

SLIDE VALVE ENGINE  
 WITH A PERFORMANCE  
 UNEQUALLED IN ITS  
 CLASS.

Doors,  
 Speeds,  
 Brakes  
 (Servo)

COACH BUILT OR WEYMANN SALOONS BY VAN DEN PLAS.  
 SLIDING ROOF STANDARDISED.

*Reliability, Economy and Comfort.*

WRITE FOR A DEMONSTRATION.

**IMPERIA MOTORS Ltd.,**  
**MAIDENHEAD**

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

B5

## valve springs and speed history

WITH "Aero" aiding speeds have crept up from the once astonishing "mile a minute" to  $3\frac{1}{2}$  miles per minute!

"Aero" is everything that is best, from 70 years' specialization in spring making.

We know that the finest engine in the world cannot be fully efficient if its valve springs do not act for long periods at high speeds with accuracy of action.

Thus we recommend "Aero" for all engines where high speeds and long life are desired.

Specify for the new car engine, or when overhauling.

List free.

*Make your cycle or motor-cycle luxurious—fit a "Terry" saddle.*

Terry's 4-folding Spanner Sets, In ordinary compass and weight. Jaws accurately cut, strongly shouldered, snug to the hand—and as indifferent to wear and time as a high-grade hardened and tempered STEEL tool should be.

Blued, Plated:  
 $\frac{5}{8}$  to  $\frac{1}{2}$  in. across flats 9d. 1/3  
 $\frac{1}{2}$  to  $\frac{7}{16}$  in. " " 1/6 2/6  
 $\frac{1}{4}$  to  $\frac{7}{16}$  in. Whitworth 2/6 5/-

Reliable, strongly made, hardened and tempered steel Screw Driver. All steel; point cannot turn in handle.

	Bronzed.	Plated.
5" long	... 4d.	5½d. each
6½" "	... 5½d.	7d. "
7½" "	... 8½d.	10d. "

From Agents. In difficulty, please write us.

Herbert Terry & Sons,  
 Ltd., Mfrs., Redditch,  
 Eng. Est. 1855.

## THE "CORNES" SAVUPET Pat. No. 246918.

IS NOT A HAND CONTROLLED EXTRA AIR INLET IT IS  
 AN AUTOMATIC PETROL SAVER

A PERMANENT  
 SAVING OF 25% IN  
 PETROL

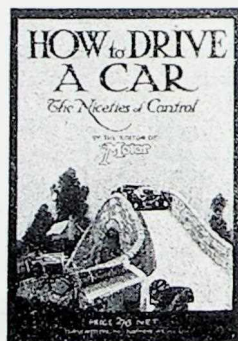
FOR A PASSING  
 PAYMENT OF  
 27/6



Easy to fit.  
 Full instructions for  
 fitting and adjusting.

Fitted free at our  
 works in  
 Walthamstow.

Sole Distributors:  
**SAVTIN DEVICES  
 CO., LTD.,**  
 Chichester House,  
 Chancery Lane,  
 W.C.2



Let the  
 Editor of  
**The Motor**  
 teach you  
 to drive!

THERE'S no better driving tutor than the well-known T.P. Manual "How to Drive a Car"—by the Editor of "The Motor."

This handbook gives in simple language a clear explanation of the principles of correct driving, and tells how to deal with numerous road problems and develop "road sense."

All the finer points of driving are made clear by numerous illustrations.

**2/6 Net**

From all booksellers and bookstalls, or  
 direct from the publishers 2/9 post free.

TEMPLE PRESS LTD.,  
 5-15, Rosebery Avenue, London, E.C.1.  
 Wholesale Agents: E. J. Larby, Ltd., 30, Paternoster Row, E.C.4



# Profit from the experience of others

The best testimony to the merits of the "Solex" Carburettor is the opinion of its users. Motorists everywhere talk of Solex Efficiency for power, speed, economy and simplicity.

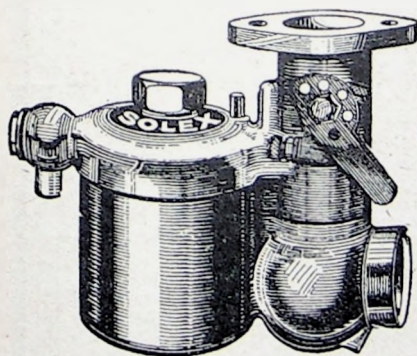
Test the Solex on your own car for 30 days FREE.

## SOLEX USERS' OPINIONS

MORRIS.—"We certify that 'Solex' has improved our Morris by 20 m.p.g." A.C.—"Easier starting, better acceleration, greater climbing powers, increased m.p.g." 7 h.p. FIAT.—"'Solex' gives us 6 miles more to the gallon, much superior to the previous carburettor." ROVER 9 h.p.—"Doing about 45 to the gallon. The engine is a pleasure to drive." CLYNO.—"404 miles on 10 gallons, and 248 miles on 6 gallons." 7 h.p. AUSTIN.—"Average 51 m.p.g." 11 h.p. HUMBER.—"Running of engine greatly improved. I am highly satisfied."

## 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.



# SOLEX

THE NO-TROUBLE CARBURETTOR

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."

# *Fit Solex—and note the difference'*

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

Goodall Ad.





## Overheard at Walton Heath.

"Yes, I've quite decided to buy a Used Car for the summer, although I shall probably exchange it for a new one at the Motor Show."

"But surely it must be a risky matter for you to buy a second-hand car when you know practically nothing about cars at all?"

"In the ordinary way I quite agree it would be, but so many of my friends have told me enthusiastically of the bargains they have secured and the extraordinarily generous treatment they have received both before and after purchase, that I feel quite confident that I shall have no difficulty whatever in getting a car to suit me, and also a satisfactory arrangement so that I need not pay out the whole amount in a lump sum."

"Well, if I could feel as certain that I could get a reliable Used Car as you apparently do, I should not hesitate a moment about buying one. Where do you get this wonderful treatment?"

"Oh, Newnham's, of course. My friends all tell me the same. They point out that Newnham's have been established well over thirty years, and I suppose that must exercise some influence over their business methods and principles, don't you think so? Then, of course, they give a definite **THREE MONTHS' GUARANTEE** with every car they sell costing over a hundred pounds. Shall we get their latest list and then go along together to see them?"

"Yes, rather, just as soon as you like."

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

Phone: Riverside 4646.

Main Agents for Austin, Jowett, Lea-Francis, Morris, Rover, Singer and Swift, and

"USED" cars with a 3 months' guarantee.

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



# AN ANNUAL CEREMONY.

Every year hundreds of motorists make a pilgrimage to St. Christophe-le-Jajolet, in France, so that their cars and the badges of St. Christopher—the motorists' Patron Saint—which they carry, may receive a blessing. The parade of cars, suitably bedecked with garlands of flowers, is blessed by priests and sprinkled with holy water.

## NOTES, NEWS & GOSSIP of the WEEK

### Rye-Winchelsea Road.

The Minister of Transport has announced that arrangements are being made for the local authorities to take over the Rye-Winchelsea road and do away with the military tollgates.

### In the "International."

Up to July 23rd there were two entries for the cyclecar class (1,100 c.c.) in the A.C.U. International Six Days' trial to be held in the Lake District from August 15th to 20th inclusive. The drivers are R. T. Horton and W. A. Carr, presumably driving Morgans.

### This Week.

Envious glances usually follow the pukka sports car as it hums swiftly along the open road, and undoubtedly there is an attraction about this type of vehicle which is irresistible to those who are content to sacrifice other considerations for speed and speed alone. In our centre pages we reproduce a representative selection of photographs of modern light sports cars together with a "hymn of praise" by one who counts himself lucky in possessing a genuine speedster! The attention of our readers is directed to the "Week-end Programme," which give details and last-minute information concerning forthcoming week-end events.

No. 764. VOL. XXX.

### ON OTHER PAGES

The Problem of Cross-roads ..	242
Getting the Best Out of a Small Four-cylinder Car ..	244
Inns and Inn Signs ..	246
Why Not a Cyclecar Grand Prix? ..	252
Speed Trials at Lewes ..	253
Rich Mixture ..	254
Topics of the Day ..	257
Week-end Programme ..	258
The Lure of the Sports Car ..	260
Our Readers' Opinions ..	262
Ideas for Owners ..	266

### LIGHTING-UP TIMES (Rear Lamps)

for Saturday, July 30th.

London ..	9.20	Birmingham ..	9.31
Newcastle ..	9.41	Liverpool ..	9.41
Edinburgh ..	9.53	Bristol ..	9.30

Moon—New, July 28th.

### After the Storm.

The R.A.C. dealt with a record number of cases under its "Get-you-Home" service for any one day as a result of the storm which swept the country on July 11th. The commonest causes of breakdown were water in the carburettor or magneto, but there were also cases where water actually entered the sump and caused a stoppage.

### Third Trade Congress.

The International Federation of the Trade and Technical Press, the headquarters of which are in Paris, will hold its International Congress this year in Berlin from September 26th to the 30th.

### Cross-Channel Cargo Boats.

To give facilities for motorists desiring to take their cars across the Channel during the holiday season, the Southern Railway has arranged for a special service of cargo boats to run three times a week from Newhaven to Dieppe, between the months of July and September. This service is in addition to those via Folkestone-Boulogne, Dover-Calais, Southampton-Havre-St. Malo and Caen.

### Next Week.

The two outstanding sporting events over the August Bank Holiday period are the London-Barnstaple and the Brooklands Bank Holiday meeting. These, together with several other subsidiary trials, will be described in detail in our next issue. The very instructive article on valves and valve gear which begins in this issue will be concluded, whilst another contribution of more than usual interest will be entitled "Cars with Bad Influences."



### Look Right.

It is reported that a hilarious pedestrian on seeing the "Look Right" sign white-painted on a dangerous crossing in London, stopped and adjusted his tie!

### One in 66.

Figures prepared in the United States show that there are now nearly 28,000,000 self-propelled vehicles in operation in the world, that is 1 in 66 of the population.

### Dunlop Alliance.

The Dunlop Rubber Co. of Australia has entered into a provisional agreement with the Dunlop Rubber Co. in this country providing a financial association and a close technical and commercial alliance between the two concerns.

### Rover "Paris Model."

The new £250 10-25 h.p. Rover Weymann-body saloon is to be known as the "Paris Model," the body lines being distinctly reminiscent of the latest French practice. Readers who



The attractive radiator badge which is fitted to the new 10-25 h.p. Rovers.

are interested in the new "10-25" should turn up our issue dated July 22nd, in which a road test of the new saloon was given. Owing to a typographical error in our issue of July 15th it was stated that the chassis numbers of the new Rovers started from 23,001. The correct figure should be 53,001.

### A Bridge Closed.

While repairs are being made to the bridge on the road between Magnall and Sefton, Lancashire, the section has been closed to motor traffic.



### WEEKLY WISDOM.

When a friend seeketh to borrow thy car, turn unto him the ear that is deaf, for thus only shalt thou know peace.

### Portuguese Road Trial.

A road trial around Portugal is to be held early in September. The course will be roughly 1,250 miles long and a preliminary run has already been commenced to obtain data which will form the basis for the event in September.

### A Petrol Economizer.

A device known as the Cornes Savapet, the purpose of which is to improve carburation, is being marketed by the Savtin Devices Co., Ltd., Chichester House, Chancery Lane, London, W.C.2. The Savapet is designed to fit to the carburettor intake, and the mixture is drawn through ingenious atomizing chambers within the instrument. Greatly increased petrol economy is the chief claim made for the Savapet, and the makers supply the device only on the understanding that it can be returned, with no obligation to purchase, if a fuel saving of at least 25 per cent. is not obtained by its use.

### The New Kelvin Hall.

THE magnificent new Kelvin Hall of Industries was given a very fine send-off by being opened by His Majesty the King. It marks the firm establishment of Glasgow as a centre for industrial displays and its completion means that the annual Scottish Motor Exhibition will be held once more in Glasgow, Edinburgh having had the honour for the past two seasons. Incidentally this year's Scottish Motor Show opens on November 4th and closes on November 12th, but the Kelvin Hall will be inaugurated with a Health and Housing Exhibition promoted by the Corporation of Glasgow.

Some idea of the magnitude of the hall can be gathered from the fact that over 170,000 square feet are available; in other words, it gives the accommodation of Olympia without the annex off the main hall. There are no galleries, and in this connection, of course, Olympia scores, but the Kelvin Hall has the enormous advantage of being a modern structure built essentially for exhibitions, and each of the several problems which arise in connection with a structure of this description has been solved with entire success.

For example, each exhibitor will have individual facilities for water, electric light, drainage and telephone, whilst the heating and ventilation system is on the most up-to-date lines, steam-heated fresh air being pumped into the building from a motor-driven fan at no fewer than 12 points on the outer walls, whilst there are 16 other points for dealing with the central span of the hall. The temperature of the air is controllable and also the amount injected.

The frontage is impressive, being flanked at the corners by towers, whilst there is a square tower upon each side of the pillared portal forming the main entrance. Surmounting each of these latter towers is a lead-covered lantern supporting a representation in bronze of the world, which is intended to symbolize the universal purpose of the hall. A quarter of a million pounds will have been spent by the time the Kelvin Hall is finished, whilst already about £205,000 has been sunk in this fine Scottish venture.



THE NEW  
KELVIN HALL.

The annual Scottish Motor Show will be held in Glasgow this year as the new Kelvin Hall is now almost complete. The Hall, which is specially arranged for exhibitions, gives the same accommodation as the main hall at Olympia. (See accompanying description.)



### Lighting Bill Discussed.

**T**HE Road Transport Lighting Bill, which prescribes the lights that must be carried by motor vehicles, has now been given facilities by the Government (originally it was introduced as a private member's Bill) and it is likely to reach the Statute Book at the end of the present year. The measure passed through Standing Committee last week, and several important amendments have been made.

### At Monthery.

The following figures were put up by W. D. Hawkes in the H.S. cyclecar at Monthery on July 11th:—5 kiloms. in 2 mins. 30.17 secs., average 119.864 k.p.h.; 10 kiloms. in 5 mins. 9.34 secs., average 116.376 k.p.h.; 5 miles in 4 mins. 9.58 secs., average 116.067 k.p.h.; 10 miles in 8 mins. 17.42 secs., average 116.473 k.p.h. The H.S. cyclecar is fitted with a 350 c.c. single-cylinder J.A.P. engine.

### The 200-Mile Race.

The supplementary regulations for the seventh annual 200-Mile Race, which is fixed for Saturday, October 15th, have now been issued by the Junior Car Club, The Clock House, Arundel Street, Strand, London, W.C.2. The only alteration of any consequence from last year's regulations is that the race is open only to four-wheeled cars (a) with engines not exceeding 1,100 c.c., and (b) with engines exceeding 1,100 c.c. but under 1,500 c.c. The 750 c.c. class is thus not directly included, but it is stated that "in the event of six or more entries being received for cars the engine capacity of which does not exceed 750 c.c., such cars will be formed into a special class."

### Record Economy.

A fuel-consumption test of an Austin Seven made last month under strenuous South African conditions was productive of some most interesting figures. The test was arranged to see how far the car would travel on four gallons of petrol. Mr. W. E. Habbick, accompanied by a Press representative, set out in an Austin Seven from Johannesburg to Durban on June 10th. After the fuel was poured into the tank, seals were attached to the filler cap by the Transvaal Automobile Club. The official test came to an end 13 miles outside the city of Maritzburg, the speedometer registering 345.2 miles and the fuel consumption working out at 86.3 m.p.g. A further gallon was poured into the tank and when the car reached Durban the remaining petrol was officially measured. The distance covered was 414 miles and the average petrol consumption 87.1 m.p.g.



AN AUSTIN SEVEN  
IN THE ROUGH.

Road surfaces are of the worst description outside the big towns in South Africa, and this track is typical of the country covered in a recent fuel consumption test with an Austin Seven.

The Report stage cannot be taken before the Autumn session.

As originally drafted the Bill proposed that road vehicles (with certain exceptions, such as horse vehicles, invalid chairs and bicycles, other than motor bicycles) should be required to show (a) two lamps, each showing to the front a white light visible from a reasonable distance, and (b) one lamp showing to the rear a red light visible from a reasonable distance. This will not apply when vehicles are in a parking place.

An amendment which was inserted (at least provisionally) at the instance of Sir Frank Meyer provides that the Minister may make regulations under which "lamps interconnected with the steering mechanism and moving with the movement of the front wheels may be used." It would be of advantage, he pointed out, if the lamps turned with the wheels as the car went round a corner. The advantage of swivelling headlamps has frequently been emphasized by motorists.

The Minister of Transport did not feel happy about this proposal, which places upon him the responsibility of allowing or disallowing the use of lamps of this character. He pointed out that the Departmental Committee in 1921, including representatives of the leading motoring organizations in the country, were strongly opposed to the proposal. Finally, the Minister agreed to the amendment being inserted "on the understanding that between now and the Report stage I will consider the question further, to see whether it shall be retained or not."



PICCADILLY  
"UP."

Piccadilly, one of London's busiest thoroughfares, is now in the hands of the road breakers, and it will be many weeks before the repairs are finished.

### New York Car Tunnel.

The New Holland vehicular tunnel under the Hudson River, connecting New York City with New Jersey, is now nearing completion.

### THE WEEK-END PROGRAMME.

A feature of direct interest to all those who follow the sporting side of motoring. See page 258.

### Death of Commandant Temperley.

A very large number of motorists will learn with regret that Commandant Charles Temperley, O.B.E., passed away in his sleep last week. Commandant Temperley, as a pioneer motorist, was a founder-member of the Automobile Association, and was a member of the executive committee of the A.A. from the inception of the Association in 1903.



## THE CROSS ROADS PROBLEM.

SOME SUGGESTED SOLUTIONS AND A WORD  
TO THE WISE.

The photos show a typical "guarded" crossing, and one of the flashing beacons on the Great West Road, London.

ONE of the biggest contributory factors in problems arising from cross-roads is the rapid growth of what have become known as circular routes. Let us take, for example, the metropolis. From the centre, trunk roads radiate north, south, east and west, intersecting the circular route at many different points. Circular roads do not in any way appreciably affect the volume of traffic which uses the main radial highways, but by their very excellence and "up-to-date-ness," the former give a driver using them the impression that they are of major importance. We are thus reduced to a state of affairs where, in countless instances, main arterial highways cross one another at right angles. No wonder that accidents occur and that motorists are beginning to look towards officialdom for a solution of the problem.

The easiest way out of the difficulty would be for a point-duty man to be in evidence at every cross-roads, but this would be possible only at an enormous cost. To the credit of the R.A.C. and the A.A., it must be said that they are doing their best to meet this need, whilst in many parts of the country uniformed police constables perform similar duties.

The number of cross-roads thus guarded, however, represents only a very small proportion of the danger points, whilst many are guarded only on Saturdays and Sundays.

It might be thought that motorists themselves could supply the solution by taking proper precautions when approaching cross-roads to ensure that there shall be no possibility of accident. In many cases, however, it is the fact that a driver is unaware of the importance of a crossing which he sees ahead, which leads to disaster, and he is frequently lulled into a sense of false security by fostering the impression that he is on a main road and that main-road traffic has the preference. This is, of course, an entirely groundless supposition.

Red triangles have ceased to carry sufficient significance, for often they are erected at cross-roads of a minor order, and at which it would be highly improbable that an accident would occur. It may be taken for granted, however, that the erection of red-triangular warning signs along any of the new circular

routes, both in London and the provinces, signifies a real need for caution, and motorists are counselled to disregard them at their peril.

In the opinion of the writer, one of the most promising schemes is that whereby roads would be classified either as main or by-roads. The latter would be clearly identified at all cross-roads by suitable warning notices, with the object of making all by-road traffic give way to that on main roads. The only weakness is, of course, in the uncertainty of the human element; but if drivers were forced to come to a stop before crossing any main road, and if hedges and trees were cut down at such junctions so as to permit of a comparatively clear view in all directions, the scheme should work admirably, and should have the desired effect of speeding up main-road traffic without any danger. It might even be a punishable offence for a driver on a by-road not to come to a dead standstill before crossing.

This, however, is only one of many schemes which have been put forward, and what motorists to-day are intimately concerned with is how to reduce the danger under existing conditions. There are a few golden rules to remember, the most important, perhaps, being: when in doubt—as to the importance of any crossing which comes into view—slow down. Audible warning should be given always, unless there is a pointsman on duty and except when the visibility all round is so good as to ensure a perfectly safe crossing. On no account should any notice be taken of unofficial point-duty men, such as loungers at street corners and so on, for a certain amount of experience is necessary in controlling fast moving traffic anywhere; at cross-roads it requires training and an intimate knowledge of local conditions and customs.

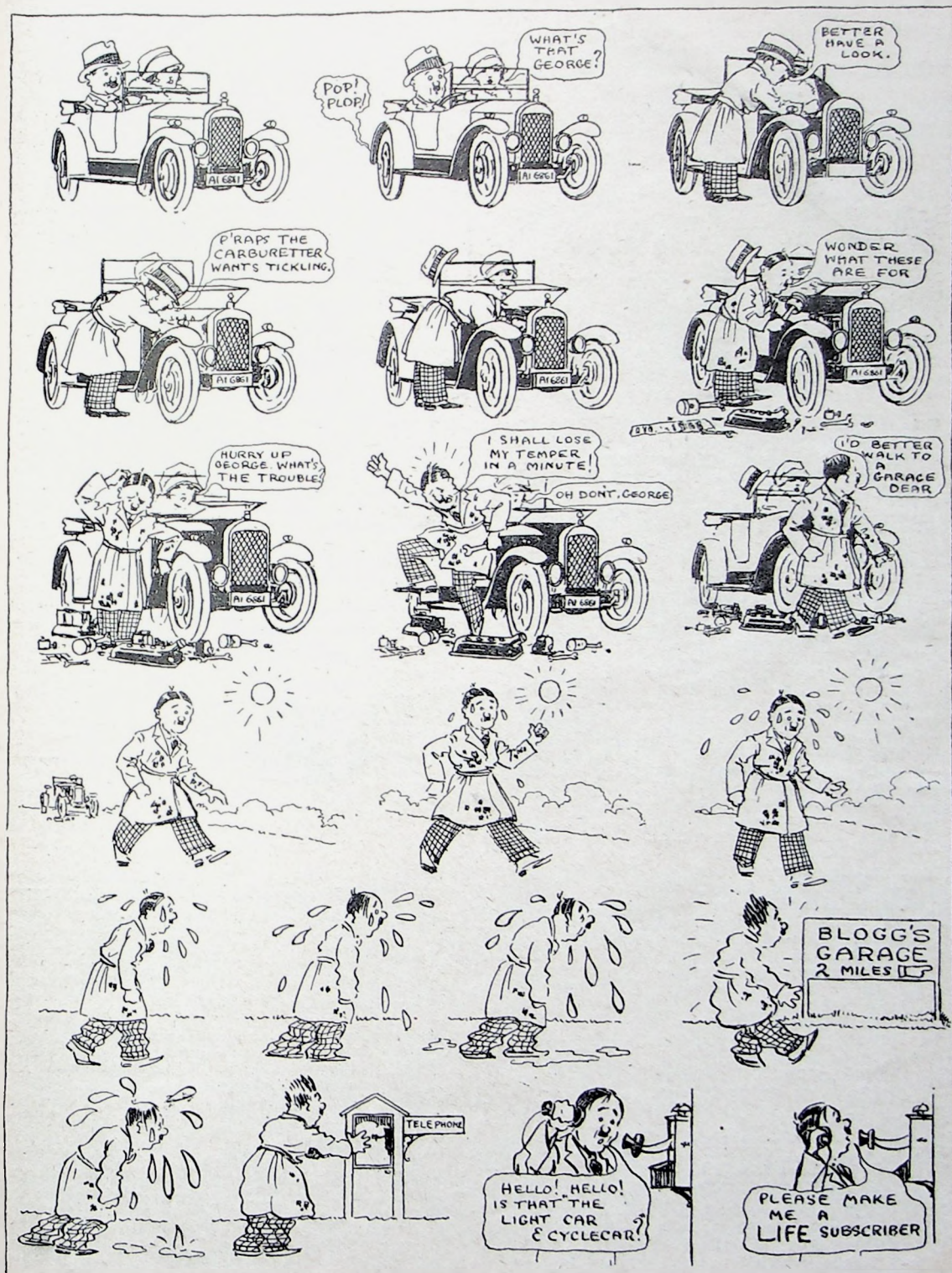
During the past few years inventors have been busy endeavouring to produce mechanical signalling devices, intended to operate as a rule by a treadle depressed by passing cars, but up to the present few of them have advanced farther than the drawing-board stage, and we fear it will be a long time before purely automatic signalling is brought to successful fruition.

The most promising safety measure is the installation of flashing beacons. These were first introduced on the Great West Road (London) and they have been conspicuously successful.

The real solution—  
but too expensive to  
adopt everywhere!



# WHEN IGNORANCE IS NOT BLISS.



GILBERT RUMBOLD

"Telephonic enquiries cannot be answered" — except in extreme cases!



IT is abundantly clear from our post-bag that cars with small four-cylinder engines are becoming increasingly popular, and that, unfortunately, they are in many cases falling into the hands of people who have been more accustomed to large cars with comparatively low-revving engines and having heavy flywheels. Now, it is one thing to drive an engine of this sort with its all-round top-gear performance, and quite another to take charge of a car which, although it boasts of the same accommodation and "looks much the same," has an engine of less than half the capacity which has to make up in revs. what it lacks in c.c. In other words, there is a knack in getting the best out of a small four-cylinder engine.

We wish to make it quite clear at the outset that it is very easy to acquire this knack and that these small machines will then give highly satisfactory and trouble-free service.

The type of car to which we refer particularly has an engine of from 750 c.c. to about 1,100 c.c., and, in its more elaborate form, is fitted with a full four-seater body; when loaded it may turn the scale at something approaching a ton. It is quite evident, therefore, that so small an engine—it was deemed large enough to deal only with a two-seater cycle-car ten years ago—must be driven with a certain amount of intelligence. Of course, it is very questionable whether, ten years ago, a four-cylinder engine of small capacity could have tackled the load with which it is called upon to deal nowadays, for the modern production boasts of very much greater efficiency; but, for all that, drivers must not expect miracles, and under certain conditions they must make what are, after all, reasonable allowances.

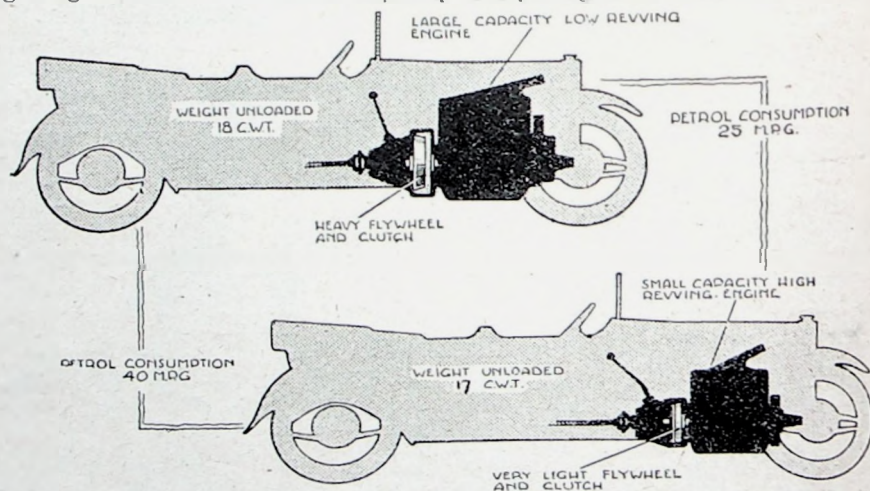
To take a case in point, it is ridiculous to expect a small four-cylinder-engined four-seater, with a full complement of passengers and luggage, to chug along up long and severe gradients in top gear. Such cars are not designed to do so, and they rely on the ability of their engines to revolve at high speed in a lower gear to make up for the deficiency in top.

One of the first rules to remember, then, is: make full use of the gear lever, do not attempt to hang on to top, and change down the moment the car shows any symptoms of labouring. For the benefit of

those who may be new to small cars of the type we are considering we should emphasize the fact that most small four-cylinder cars will do 28 m.p.h. in second, whilst the faster variety will do anything between 35 and 40; in exceptional cases, where special tuning has been undertaken, 45 to 47 m.p.h. is possible in an intermediate gear.

Starting away from rest on the level sounds a ridiculously simple job, yet the writer has seen many drivers of small cars doing irreparable damage to the transmission by trying to get away in second gear.

Now as high revs. are a sine qua non with an engine of small capacity everything that reciprocates or re-



#### POINTS THAT COUNT.

A comparison of several essential points which arise when a modern small four-cylinder-engined car is placed side by side with one of "medium" weight and power.

volves must be as light as possible, hence the inertia of the flywheel and so on is very small, and whereas with a big car it is possible to take liberties by making use of the much greater inertia, it is difficult to do this with a very small-engined car without stopping the engine, making a halting get-away, or slipping the clutch to excess.

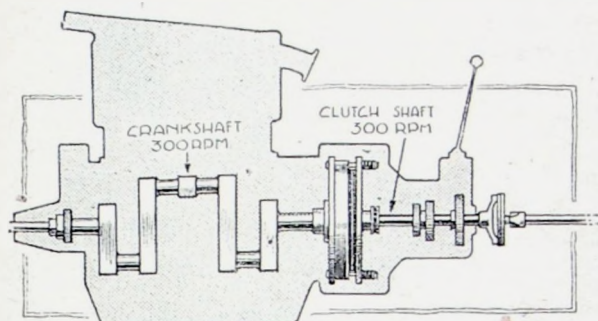
It can be done providing the clutch has so poor a grip as to have approached a permanent slipping stage, but with a clutch that grips properly it is a very different matter. Make a point, then, of using first gear always when getting "off the mark."

A driver of a "small four" should not endeavour



to hang on to top gear on the level at some 5 or 6 m.p.h., say, in traffic. It takes an expert to get away with it in circumstances like this, and, as a rule, he makes no attempt to slip his clutch as would be done with a larger car.

If he desires to stay in top gear he does not declutch but gives the engine about a quarter throttle, the ignition being retarded about one-third. The inexperienced man revs up and either lets his clutch in with a bang, causing quite unnecessary strains throughout the transmission, or fiddles with his clutch so that the car proceeds in a series of jerks until it has obtained enough momentum for the engine to take up the drive



To avoid judder at low road speeds when re-engaging a slightly fierce clutch the engine should be revved up so that the driving member of the clutch is travelling at about the same number of r.p.m. as the driven member.

smoothly. Here is a case where a change to second gear is really imperative.

Some of these light forms of clutch develop fierceness which can be cured only temporarily by washing out with petrol or paraffin. In the main it is very much better to have a clutch of this sort than one which slips, but it must be borne in mind that it is wrong in every respect to endeavour to slip a fierce clutch and that it is far better to handle the controls in a manner similar to that adopted in the old days of friction disc cars, i.e., the clutch should be either in or out, there must be no in between, except, of course, in starting off, when a certain amount of slip is essential.

One might, for instance, have to declutch in traffic, the toe, of course, being taken off the accelerator pedal: if it is desired to re-engage the clutch almost at once the engine must be revved up so that the speed of the driving member of the clutch more or less ap-

proximates to that of the driven member, so that the two engage without shock.

In the mistaken belief that manufacturers do not always endeavour to obtain a correct carburetter setting and that carburation is solely responsible for what they are pleased to regard as the poor performance of a small engine under certain conditions, some drivers replace the existing jets with much larger ones. If they are sufficiently fortunate to produce slightly better pulling powers they suffer a rude shock when they ascertain their petrol consumption under the new conditions, and they write despairing to "the Editor."

### Interesting Data.

There is a prevailing impression amongst newcomers to economical motoring that small four-cylinder engines do not maintain their "tune" for more than two or three thousand miles and that they wear out quickly. In the extensive experience of the writer this is totally incorrect, and the following facts based on an actual case speak for themselves.

Engine, approximately 1,100 c.c.; overhead-valve type, operated by push-rods. The tappets were adjusted at the end of the first two hundred miles' running and not touched again until first decarbonization at four thousand miles, when, of course, the head having been disturbed it was advisable to check and adjust clearances. The magneto was also examined and found to be O.K. The car has now run, approximately, a further four thousand miles and no adjustments to tappets have been made. Misfiring occurred at five thousand miles; this was traced to a faulty plug. At six thousand miles the magneto chain was adjusted. In the last two months or so the bonnet has been lifted only to replenish with petrol and oil.

The necessity for maintaining correct tyre pressures needs emphasizing; a considerable amount of drag will be set up if the tyres are allowed to get flabby, and a noticeable absorption of power will occur. Another useful tip to remember is that a high grade of oil for both gearbox and back axle gives a livelier performance than a comparatively heavy lubricant which when cold becomes semi-solid and increases drag due to churning. When oil is substituted for grease a watchful eye must be kept on the level in both gearbox and back axle, as leakage may occur. Over-filling a gearbox slightly does not matter very much, but to overfill the rear axle with oil is wrong because even a slight leakage from the ends of the axle may reduce braking effect by about 75 per cent.



**EXPECTING TOO MUCH.**

It is ridiculous to expect a small four-cylinder engined four-seater with a full complement of passengers and luggage to chug along up long and severe gradients in top gear.



*Every motorist makes frequent use of roadside hostelrys, but beyond taking a passing interest in such places few trouble to consider the why and wherefore of our inns. In this article the writer shows how interesting a study of English inns can be and, besides tracing their history from early times, gives the derivation of many quaint signs.*

THE derivation of the curious names of some of our inns is an absorbing subject. Although, of course, there is a very great number of signs which are to be seen in all parts of the country, the origin of most of these is not unique and does not offer any material link with local history. That the necessity for signs was recognized is obvious, because Acts of Parliament in the 14th century compelled innkeepers to display a sign.

Important events in the history of England and much of its manners are reflected in public-house signs. When great nobles afforded protection to those living on their estates the local landowner's coat-of-arms was often used by the innkeeper as a sort of guarantee of his standing under such shelter. The Turk's Head and The Saracen's Head are reminders of the Crusades, whilst the names of famous coaches gave the Tally Ho, The Highflyer, The Comet, The Regent and The Telegraph. Later the beginning and growth of the railway provided The Locomotive, The Enterprise, The Engine and Tender, and others. The many Nelson, Trafalgar and Waterloo inns betray their origin during the French wars and the vicinity of churches gave The Ring o' Bells, The Peal of Bells, The Five Bells, and so on.

The term "Bull" as an inn name does not, as many suppose, refer to the animal. It is derived from the Latin word *bullā*, or seal, and signifies that an inn was licensed under the seal of an abbey. Most of these inns flourished under their ecclesiastical patronage, and often are still the most important hostelrys in their districts.

### The Birth of Inns.

The history of modern England might almost be written in terms of inns. The English inn was born of the pilgrims who went along the roads to Canterbury, Glastonbury and Winchester. There still remains the Glastonbury inn which sprang from the Abbot's offer of two nights' free lodging to pilgrims, and at the corner of Mercy Lane, which leads to the Canterbury Cathedral, there are the lower walls of the hostelry which received pilgrims to the shrine of Thomas à Becket, in the days of Chaucer,

The first painted signs of inns were symbols without letters, for centuries ago men could not read and the wine-houses had a bunch of grapes painted on a board over the door. The sign of The Grapes is therefore a very old one. The Talbot is another ancient sign and can probably be traced to the family of Talbot—more especially to the great Earl of Shrewsbury, whose bones lie in the church at Whitechurch, Salop. The supporters of the arms of the family are two talbots—a species of hound which was noted for its keen scent and eager pursuit of game.

The Crown is a very popular sign, but it was not always a fortunate one. There was, so the story goes, a hostelry of that name in London, and the landlord thereof, in jest, declared that his son was "heir to The Crown." Edward IV promptly hanged him for high treason—in such manner was humour rewarded by our monarchs in "the good old days." The names of kings and queens were once common as inn signs, and it is said that St. George himself has often had to abdicate in favour of one who was certainly no saint at all, inasmuch as the dragon on the old sign of The George and Dragon was in many cases painted out on the accession of George I and the name of George alone retained in compliment to the reigning monarch.

### Popular Signs.

Lions have made more popular signs than any other heraldic animal, and the sign of The Red Lion has always been the most common. It originated with the badge of John of Gaunt, Duke of Lancaster, who married Constance, daughter of Don Pedro the Cruel, King of Leon and Castille; the duke bore the lion rampant gules of Leon to represent his claim to the throne of Castille when it was occupied by Henry de Traustamare. In after years The Red Lion was often used to represent the lion of Scotland. To the miraculous escape of King Charles II at Bosobel we owe the sign of The Royal Oak, which, notwithstanding a lapse of two-and-a-half centuries and a change of dynasty, continues a very favourite sign.

From time immemorial The Fox has been a favourite inn sign in this country, accompanied, in many instances, with absurd and whimsical inscriptions,



very often in doggerel rhymes. The oft-recurring Green Dragon is supposed to be one of the oldest heraldic devices in the kingdom, for it was the standard of the West Saxons until the arrival of William the Conqueror, and it appeared on the shield of Henry III at the battle of Lewes.

Its country inn signs have always been the peculiar glory of England. Their perfections have been acclaimed by a hundred grave writers of prose and hymned by unnumbered poets. Our literature would indeed have been much poorer had there been no such places as inns as centres of activity and interest, although no one has appropriated them to the same extent as Dickens. He loved their cosiness and activity, and he loved them still more because they were the common meeting places of those quaint characters he was always seeking to discover and depict.

### Impressions of Dickens.

"My first impression of an inn dated from the nursery," he writes, and he gives his impressions and recollections of many inns, including the one where the parrot kept saying: "Blood! Blood! Wipe up the blood!" the inn in the cathedral town where he went to school, the one with the ecclesiastical sign, The Mitre, where he loved the landlord's daughter to distraction and where he cried over his rosy, little sister because he had acquired a black eye in a fight; and, most important of all, the Holly Tree Inn, with Cobbs, the finest "boots" to be found in literature.

The ancient inns of England hold a firm place in the social economy and were at once the traveller's joy and his necessity. The tired horseman looked for the bright many-coloured signboards much as the storm-tossed mariner scans the horizon for the welcome light of a harbour. The inns, indeed, were proper stages upon the journey of life. The road wherein they were set was a place of movement and romance. The general resort of all classes, it witnessed the tragedies and the merry-makings of men of all classes. There roved the courtier with his cavalcade, the bagman with

his budget of samples at his saddle, the ambling farmer on his stout-built cob, and on their tracks there thundered the reckless, well-armed highwayman, intent upon his supper and a bottle at the nearest inn. Thus the gay, riotous, coarse, good-humoured life of England was lived on the high road and in the hostelry.

When the railways captured the internal carrying trade of the country in the early part of Victoria's reign and drove the old stage coach off the roads, they heralded the decline and fall of the roadside inn. Only in places few and far between can the traveller of to-day come across the cosy, comfortable roadside hostelry that is found at its best in the pages of Dickens.

With the advent of the motorcar, however, there has sprung up a new generation of road users who require the ministrations of "mine host" of the wayside inn. In most places the proprietors of the village inns have not yet been able to meet all the demands of their potential customers who arrive and depart by road. The wants of the public of to-day are, perhaps, not so frequent as in the period when the stage coach made a halt every ten or twelve miles. Touring motorists want a house of call only about once in fifty miles, but, on the other hand, there are so many people touring the country in so many different directions nowadays that the business, if enterprisingly conducted, unquestionably pays.

### What of the Future?

It is a lamentable fact that although motorcar traffic in considerable quantity has existed on the roads for about 20 years, only a very small proportion of the inns of the coaching age have been able to revive their former glories. That the revival of road traffic is to be a lasting feature of our national life cannot be doubted. It behoves those who cater for travellers, therefore, to bring their establishments abreast of the times and to do their utmost to restore the faded glories of the wayside inn.

Many a poor and struggling artist, now dead and famous, has earned a night's lodging by painting a public-house sign; several of them are works of art.

The Oak was painted by David Cox for a boniface at Bettws-y-Coed; The Loggerheads sign near Mold was painted by Richard Wilson; and such celebrated artists as Beechey, Holbein, Frith, Leslie and Hogarth in their early careers often amused themselves by painting for publicans. Some of their works still exist and are a happy departure from the conventional Red Lions, White Horses, Black Swans and Half Moons hung over the door of the ordinary tavern.

R.E.D.

### ARTISTIC AND PICTURESQUE.

(Above) The fine sign of Ye Olde Foure Swans, which stretches across the road at Waltham Cross. (Right) A modernised sixteenth century hotel—The Bear at Minchinhampton in the Cotswolds. It is a graceful new structure built around an old tavern, the two being separated by a stone-paved courtyard.





Two Very Interesting Adaptations of—

## FREE - WHEEL DRIVE

DETAILS OF EXPERIMENTS THAT HAVE BEEN  
CARRIED ON FOR SEVERAL YEARS. AN IN-  
GENIOUS GEARBOX CONSTRUCTION

AS the result of the attention which we have directed to the possibilities of free-wheel drive, considerable interest has been aroused amongst our readers, and we have had a large number of letters on the subject. A selection of these appears in the appropriate section of this issue.

We are now able to give details of two very interesting adaptations of free-wheel drive, which are the results of experiments carried out by Mr. John Weller, M.I.A.E., Amberley, Great Bookham, Surrey, so far back as 1922, when the combined friction clutch and roller free wheel with interlocking dog clutch, hereafter described, was patented.

In 1924 a small experimental chassis was equipped with this clutch and Mr. Weller's own findings as to its behaviour are worth recording in view of the fact that the incorporation of a free-wheeling device in the clutch itself might be considered to be defeating the aim of easy gear-changing and giving nothing but an over-run in all gears.

The inventor says: "The effect of the device on gear-changing is remarkable, it being possible to change straight from top to bottom gear without using the friction—that is, the ordinary—clutch at all. Chang-

ing of the clutch. Simple means are provided for throwing the free-wheel device out of action, a sliding dog clutch (A) being pushed forward against a light spring, thereby locking the whole of the driven member of the clutch, with its free-wheel drive, to the propeller shaft. The dog clutch is moved by the lever (B) mounted upon an extension of the sliding rod which carries the striking fork operating the direct or top-gear drive in the gearbox. The top-gear position of the gear lever brings the lever (B) up against the face of the dog clutch (A), whilst a slight additional movement of the gear lever causes the dogs to engage, thus locking the device.

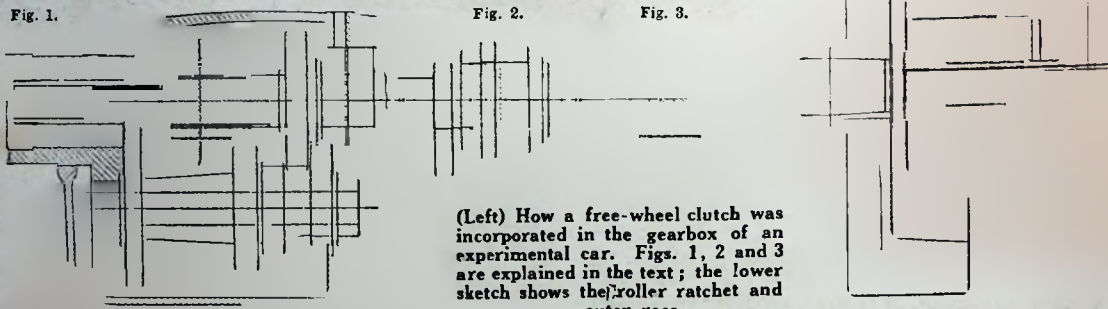
In the experience of the inventor this interlocking dog clutch can be engaged when over-running without trouble and at any speed merely by opening the throttle to speed up the ordinary friction clutch shaft. It will

(Right) The combined friction clutch and free wheel device patented by Mr. Weller in 1922.

Fig. 1.

Fig. 2.

Fig. 3.



(Left) How a free-wheel clutch was incorporated in the gearbox of an experimental car. Figs. 1, 2 and 3 are explained in the text; the lower sketch shows the roller ratchet and outer race.

ing-up, which on nearly all cars presents no difficulty, is done in the ordinary way by releasing the friction clutch."

The principle of the free-wheel device is that of the roller and ratchet, whereby in one direction the outer and inner races can revolve independently of one another, whilst in the other direction a wedging action is caused by the rollers tending to run up the face of each tooth of the ratchet.

Referring to the accompanying sketch of the complete clutch unit, one of these rollers is clearly seen, and it will be noticed that the free-wheel-drive device is, of course, carried on what is virtually the driven member

be observed that the device can be thrown in or out of action only when top gear is engaged.

In the above form one of these clutches has been fitted to a six-cylinder A.C. (Acedes). The makers of this car, by the way, are experimenting with free-wheel clutches, and it is possible that a limited number of chassis in which a free wheel is incorporated may be produced and put on the market in order to act as a "feeler" so far as the public is concerned.

Realizing, perhaps, that the combined free-wheel and friction clutch offered certain disadvantages, Mr. Weller has recently patented an alternative device, in which a roller free wheel working on the same principle as that already described is incorporated in the top-speed and second-gear pinion assembly inside the gearbox itself.

The design shows that considerable thought has been given to the requirements of a driver in respect of free-wheel drive, for in the arrangements—outlined in the larger of the two accompanying drawings—the free wheel is optional in top gear, that is capable of being put in or out of action, and permanent in second; but



in bottom gear and reverse everything remains as in ordinary practice. Obviously, of course, the system could be elaborated so as to give free-wheeling on other gears as required.

The object of the arrangement as described is to place the free-wheel device where it is most useful from the point of view of petrol economy and ease of downward gear changes from top to second—which provides the major part of the work during ordinary touring—without subjecting it to the more severe loads caused by starting from rest or climbing in bottom gear.

The two elements of the free wheel are slid one over the other and located by means of the existing striking fork, the bush (C) being the only other additional part inside the gearbox. There are no extraneous fittings outside the box—not even an extra bolt or nut.

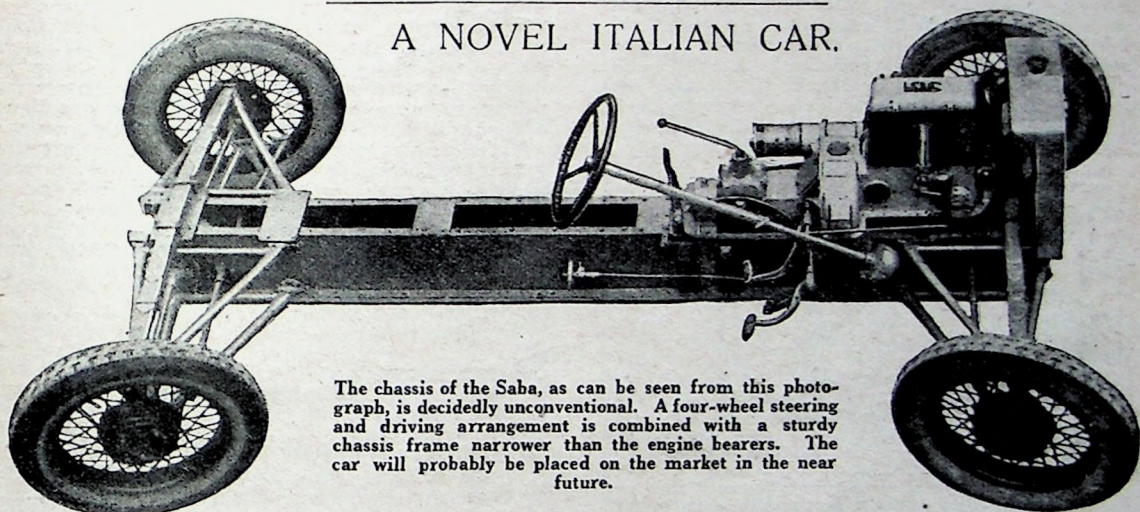
Three positions of the gear are shown. In Fig. 1 the gears are in neutral, in Fig. 2 top speed is engaged with the free wheel in operation, so that the car can over-run the engine for coasting down inclines or on level stretches. Experience goes to show that a car

will coast for a surprisingly long distance with a free-wheel application of this type in which the whole of the forward transmission, including the layshaft and reverse pinion, idles with the engine. In Fig. 3 the free wheel is interlocked so that the engine is available as a brake for traffic driving or when descending moderately steep inclines.

In this adaptation also the interlocking mechanism is coupled up to the gear lever so that a slight additional movement of the lever brings a subsidiary dog clutch into engagement. It is claimed that this can be effected with the same ease and certainty as the engagement of the ordinary top-speed dog clutches.

It should be emphasized perhaps that in both the devices which we have described certain benefits of over-run (namely, petrol economy, absence of noise during over-running and greater longevity of certain working parts) have been the chief features at which the inventor has aimed, but we feel sure that the next step in the development of clutches of this sort will be their incorporation between the gearbox and the back axle, thus making gear-changing positively easier.

## A NOVEL ITALIAN CAR.



The chassis of the Saba, as can be seen from this photograph, is decidedly unconventional. A four-wheel steering and driving arrangement is combined with a sturdy chassis frame narrower than the engine bearers. The car will probably be placed on the market in the near future.

THE most interesting features of the Saba, a new Italian light car, are independent suspension of each wheel combined with a four-wheel driving and steering arrangement, the primary object being to make the car really suitable for the poor surfaces of Italian roads.

The layout of the chassis is distinctly ingenious, the only thing about it which can be regarded as thoroughly orthodox being the power unit. This comprises a neat four-cylinder monobloc engine of 1,000 c.c. with clutch casing and four-speed gearbox built up in one. The frame is actually narrower than the engine bearers, the latter being supported on brackets extending outwards from the side members.

Each wheel is supported on a framework of steel tubes in the form of a pair of triangles with their bases hinged to the frame of the car and free vertical movement to the road wheels is permitted. Long, flat, transverse springs are attached to the outer joints of the upper triangles, and the suspension is exactly the same for both front and rear axles. Power is transmitted to the bevel-driven rear axle by means of an ordinary open propeller shaft with Hardy coupling joints. Cardan shafts transmit the final drive to the road wheels, these shafts being fitted with large dia-

meter Hardy joints at their inner ends and ball-type universals at their point of attachment to the road wheels. This is necessary in order to allow for the movement of both the front and rear wheels in steering.

Steering connections to both axles are identical. The steering cross rods are jointed at the centre in order to avoid strain in the case of one wheel passing over an obstruction not encountered by the other. For the front wheel drive a secondary propeller shaft is carried the whole length of the car, running beneath the engine, this shaft carrying the power from the rear bevel drive to a forward bevel-driven axle. Both axles incorporate differentials. This shaft, like the primary propeller shaft, is fitted with large Hardy joints.

A transmission brake, which is located at the rear of the gearbox, gives a four-wheel braking effect. Remarkable non-skidding qualities are claimed for the car, especially in rounding sharp bends on a steeply cambered road.

The Saba has been given prolonged and very severe road tests and is now reaching the production stage. The chief criticism upon the design, which has certain excellent features, is the very great number of moving parts which it involves. The manufacturers are the Soc. An. "Saba," 35, Via Ponte Seveso, Milan (129).

### DURING THE FIRST WEEK IN AUGUST—

A number of car works, service stations, and so on are closed for the annual vacation. If you are contemplating a visit to one or another telephone them first. You may

—SAVE YOURSELF A JOURNEY.





## Interesting Sidelights on VALVES AND VALVE GEAR

WITH SPECIAL REFERENCE TO  
THE DIFFICULTIES THEY PRESENT  
IN THE DESIGN OF SMALL ENGINES.

*Considerable interest was created by an article in last week's issue on the problems which designers of small engines have to solve. The subject was dealt with generally, however, and in the following article, which will be concluded next week, valves and their influence on design are discussed in detail.*

**A**SSUME that we have two engines with the same compression ratio, one unit with side-by-side valves, the other (of similar capacity) with overhead valves operated by push-rods: the performance of the one—providing the piston stroke is not abnormally short—will be exactly similar to that of the other.

This is the view held by Mr. H. R. Ricardo. In a paper read before the Institution of Automobile Engineers, he went even farther, contending that, owing to the more central position of the sparking plug on

of the exhaust, has to be surrounded by a water-jacket. Below this are assembled, in turn, the valve guides, spring, cup, tappet adjuster, lock-nut and tappet.

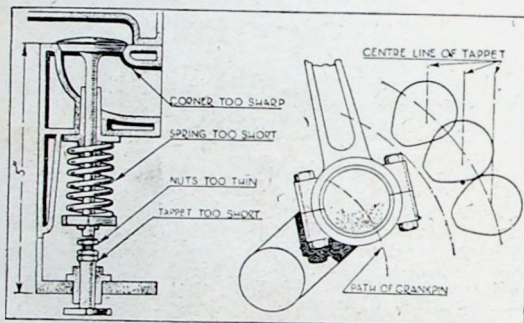
The camshaft has to be as high as the design of the crankcase will allow, for the dictates of efficiency demand that the camshaft shall be as near to the centre line of the engine as possible, because the closer the valves are to the cylinder bore the more compact and efficient will be the shape of the combustion chamber.

In the case of an air-cooled engine matters are still further complicated by the fact that the valve assembly tends to divert the cooling draught from one side of the cylinder barrel; a water-cooled unit suffers no such disadvantage.

There are three main tendencies that the designer of a small side-valve engine must overcome, and these are:—(1) To bring the port too high in an endeavour to save space and, in doing so, to make a sharp radius between the valve seat and the horizontal limb of the port; (2) to make the tappet and adjustment nut too thin to be robust; and (3) to cut down the length of the tappet to such an extent that it rapidly wears and becomes noisy.

### Eliminating Tappets.

In the writer's conception of the ideal side-valve arrangement, tappets are eliminated and their place is taken by light duralumin rockers, which are fitted with adjuster screws and hardened steel cam rollers. The valve is sloping. Notice that this brings the valve-head near to the cylinder bore and so gives a very compact combustion head; the gas path is rather more



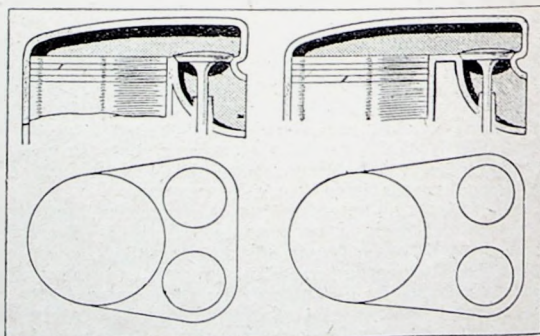
(Left) With only 5 inches to play with the designer has a difficult job to prevent one of the given faults from developing. (Right) How the lowering of the camshaft to obtain more room for the assembly shown on the left throws the camshaft farther away from the centre line of the cylinder.

the side-valve engine, it would stand a higher compression ratio without detonation than its rival, and therefore, in practice, would give a better performance.

Had any one of lesser standing made such a statement, he would probably have been challenged, but in support of Mr. Ricardo's argument we have the Austin Seven, the Amilcar and Mathis, units the efficiency of which probably exceeds that of many overhead-valve engines. That side valves have many advantages over rival types is shown by such attributes as low cost, lightness, simplicity and freedom from wear, for the only points of contact are between the cam and tappet and between the tappet and valve.

Nevertheless, in the face of such an authoritative statement and such examples, there are many people who are ready to declare that it is nearly impossible to obtain maximum efficiency with side valves; and all must admit that there are many difficulties besetting the designer and manufacturer of a small unit incorporating them.

First, it must be remembered that the whole of the valve and tappet arrangement has to be assembled into the cylinder block, which, on a 1,100 c.c. four-cylinder, seldom exceeds 5 ins. in height. The designer of even a 1,500 c.c. unit having 7 ins. to play with may find it all too short, for one must remember that beneath the valve there is the port, which, especially in the case



These two drawings show why the designer who is building a side-by-side engine with vertical valves strives to get the camshaft as near to the centre of the cylinder as possible. The drawing to the left illustrates the more compact and efficient combustion chamber.

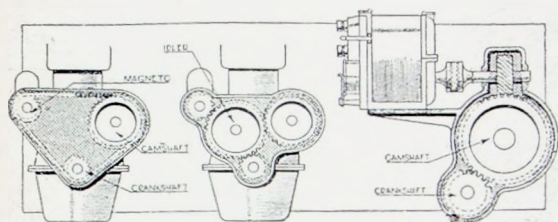
direct than is usual on side-valve engines and the valve adjustment is made very accessible. There are, it must be admitted, two disadvantages. Of these the lesser is a side-to-side movement of the valve-stem end,



but this is far less in magnitude than that experienced on the majority of overhead-valve engines. The increased cost is a more serious obstacle.

One of the great difficulties with the side-by-side-valve arrangement is to keep the valves accessible, because any accessories placed at the side of the engine tend to mask them.

On the Austin Seven the magneto is mounted in front of the cylinder block and driven off a cross-shaft, the dynamo is on the opposite side of the crankcase and the starter is above the flywheel. One of the French makers mounts both dynamo and magneto on the front



Camshaft drives of side-valve engines. (Left) The triangulated and (centre) the all-gear system. (Right) 45 degrees spiral-bevel tooth gearing. This arrangement makes the contact breaker very accessible.

of the engine, but this arrangement tends somewhat to make the contact breaker rather inaccessible and, in addition, over 10 ins. is added to the length of the otherwise very compact power unit. An ingenious method is adopted by a German designer, who puts the dynamo on the cylinder head and drives it by belt in tandem with the fan. The magneto, in this case, is on the opposite side of the engine to the valves.

The foregoing should have made clear the difficulties which surround the design of a small side-valve engine, and many designers have gone over to the rival types more because they regard these difficulties as insuperable than because they think overhead valves are better.

One more advantage of the side-valve engine must be considered before we come to examine overhead arrangements; this is the simplicity of the camshaft drive.

There are three popular arrangements of side-valve timing gear. The first has a single triangulated chain, which drives the camshaft and magneto and is adjustable either by sliding the magneto or by a jockey pulley. The second makes use of gears. A large gearwheel in the centre acts as an idler and is usually made of some non-metallic substance in the interests of silence. The third incorporates a gear in which all the wheels have 45-degree spiral teeth. The magneto is driven off the camshaft by a shaft at right angles to it.

As all these gear arrangements are cheap to make and, in every case, allow the camshaft to be in the crankcase where its bearings are easy to machine in relation to the crankshaft and the cams are easy to lubricate, it is evident that side-valve timing gear has much to recommend it.

The problem of the designer who wishes to use overhead valves is how to retain the ideal timing gear. Push-rods provide the means, but they are admittedly a somewhat unsatisfactory compromise. For one thing, their use involves five points of contact in the mechanism where noise and wear can develop, and there is no doubt that if an engine is not carefully designed noise does develop at one or another of these places.

Other admitted faults are:—(1) The length and lack of rigidity of the rod; (2) its weight; (3) the fact that it may remain comparatively cool while the cylinder block becomes hot, this resulting in unequal expansion, which upsets the clearances and causes noise.

An examination of a modern push-rod arrangement reveals how designers have tackled the problems and

successfully overcome them. Before the arrangement is criticised, however, it should be borne in mind that the tendency to-day is in favour of small cylinders. The big cylinder power unit is dead, and, at least, so far as light cars are concerned, push-rods are quite short.

Where engines are made with the cylinder block and top half of the crankcase cast in one piece, the tendency is to raise the camshaft until it is actually alongside the cylinders. This has a two-fold advantage, for not only does it shorten the push-rods but it enables a narrower and neater crankcase to be used.

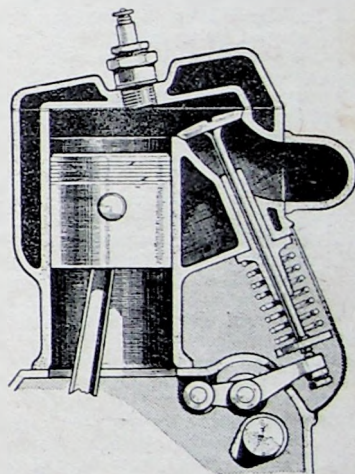
On good-class engines the push-rods are built up of light aluminium alloy tubes. These are very strong for their weight, and as their coefficient of expansion is twice that of the cast-iron cylinder block, there is no noticeable alteration in clearances when the engine warms up to its work.

### Oiling Arrangements.

By running oil under pressure through the rocker shaft and arranging a small oil-way to spurt oil into the cup on the top of the push-rod, the whole of the mechanism is flooded with lubricant, which gathers into the cups and forms a non-metallic sound-proof contact.

Assuming that the disabilities of push-rods themselves have been overcome—and in the better engines they undoubtedly have—it is desirable that we examine the engine as a whole to see what advantages the layout

The writer's ideal side-valve layout. It is claimed to give a compact combustion chamber, a direct path for the gases, long valve springs and easily accessible means for adjusting tappets. Note the ample water spaces, particularly in the neighbourhood of the valve guides.



gives. In the opinion of the writer, the greatest is the fact that there is no mechanism requiring attention at the side of the cylinder block. The designer, having ample room, has no temptation to cut down the length of the tappets and has every inducement to mount the magneto and dynamo as high up as possible, with the result that both are accessible and immune from any damage due to water, even when a car is fording a deep water-splash. The carburettor position, too, is raised, and the instrument is, therefore, easier to reach. The undoing of two or three nuts and the removal of a cover exposes the whole of the valve adjustment—one of the greatest advantages of the arrangement.

There are several other advantages which are not apparent at first sight; one of these is the uniform shape of the combustion chamber. It is one of the simplest of operations to machine this all over, and experience shows that carbon is less ready to adhere to a machined surface. Even when it does do so, decarbonization is a comparatively easy matter. The machining further enables the designer to keep the compression ratio down to fine limits, which should be reflected in the performance in the form of more even slow running.

H.J.

(To be concluded.)



WHY NOT—

## A CYCLECAR GRAND PRIX?

PROMISING SCHEME NOW TAKING  
SHAPE—COL. LLOYD'S VIEWS—WHAT  
DOES THE J.C.C. THINK?

THE interest aroused by the suggestion made in *The Light Car and Cyclecar* that a Cyclecar Grand Prix should be arranged is increasing week by week and there seems every indication—thanks to the enthusiasm of those who are working towards the accomplishment of the idea—that it will materialize perhaps this season, but more likely next year.

The suggestion is to make the race of international importance by including all makes of three-wheeled vehicles with a maximum engine capacity, say, of 1,100 c.c., and thus attracting entries from abroad, of which we have every reason to believe there would be sufficient to add very materially to the interest. As an alternative, the race might be open to four-wheeled cyclecars as well, but certain difficulties arise. These are discussed later on.

In this country we have the redoubtable Morgan, the Omega, Coventry-Victor—made in a supercharged form, by the way—and H.P., whilst on the other side of the water there are such makes as D'Yrsan, Sandford and the French Morgan, to name only three which have come before the French racing public very prominently during the past two seasons.

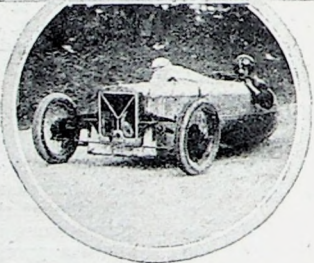
Support has already been promised by certain keen sportsmen in this country, and we feel sure that M. Siran, the moving spirit of the D'Yrsan concern, would enter a team of cars.

Up to the present it has probably been taken for granted that Brooklands would be the venue chosen for the race, and, with the object of obtaining his views concerning the proposition, we approached Col. Lindsay Lloyd, the clerk of the course.

It is encouraging to learn that Col. Lloyd inclines to the belief that a Grand Prix race for cyclecars would be quite interesting and that he sees no reason why it should not be held at Brooklands.

"The only difficulty that I see for a race of this description," he said, "is the definition of a cyclecar and the actual control of the race." The Colonel pointed out that three-wheelers are controlled by the F.I.C.M. and the Auto-Cycle Union, whilst four-

The photos, from top to bottom, show a typical Morgan day at Brooklands, and three representative French makes which might be expected to compete in a Grand Prix. They are the Sandford, French Morgan and D'Yrsan.



wheelers come under the jurisdiction of the A.I.A.C.R. and the Royal Automobile Club. He sees no difficulty so far as three-wheeled cyclecars are concerned, but he argues that the definition of a four-wheeled cyclecar is not easily supplied.

"When, years ago, I suggested the word cyclecar," he added, "we used to consider that it was a vehicle limited by an engine capacity of 1,100 c.c., and for a long time the F.I.C.M. recognized a certain class of vehicle conforming to this definition and termed a cyclecar."

As the whole idea originated in a desire to enable three-wheeled vehicles to race one against another, and as they conform in the spirit and the letter with the types associated with the title in early days, we see no reason why entries should not be limited to three-wheelers. This would not affect the title of the race, and it would confine it to one particular type of small car.

Colonel Lloyd suggested that difficulty might be met with in the actual control of the race, but any difficulties there may be would be overcome very easily if a body such as the Junior Car Club—once champion of this type of vehicle—were to act as its sponsor and either organize a separate race or overcome its existing scruples by including a class for three-wheeled cyclecars in the 200-Mile Race. The views on this point of those who would actively support a cyclecar race would be welcome. The Junior Car Club could then be approached on the matter.

In the meantime, readers are referred to our Correspondence columns, in which the suggestion that a committee should be formed forthwith is made by "Grand Prix," who has even advanced so far as to obtain temporary headquarters—thanks to the courtesy of Mr. Williams, of Metro Motors—at 45, Newman Street, London, W.1.

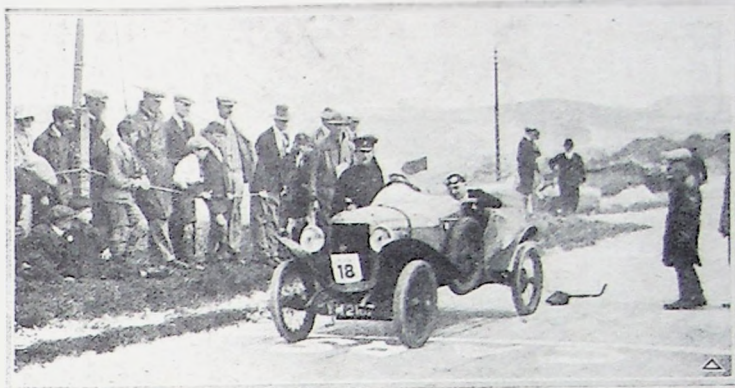


## The World of Sport.

SPEED-WORK  
AT LEWES.M. CAMPBELL (BUGATTI)  
MAKES FASTEST RUN.

QUITE one of the most successful of the popular speed trial meetings on the Lewes race bill was organized last Saturday by the Kent and Sussex Light Car Club. The weather was fine and the usual cross-wind had lost something of its old ferocity. What looked like a record crowd assembled early and by 2 o'clock the "paddock" presented a busy scene as drivers hastily put the finishing touches to their cars. The centre of attraction was Malcolm Campbell's 1,493 c.c. Bugatti (supercharged) which subsequently made the fastest run of the day. Another popular "camp" was George Newman's. He arrived with a determined expression, two Salmsons and a Grand Prix Bugatti.

The course was the usual 700 yards from a standing start, and the first class—standard sports up to 900 c.c.—resulted in a duel between two Austin Sevens, J. Ridley beating D. Lincomb



ON THE STARTING LINE. — J. A. Driskell accelerating in his veteran D.F.P. The races were watched by a large crowd.

Newman gained another first in the class for super sporting two-seaters up to 1,100 c.c., while Constable and J. A. Driskell (1,098 D.F.P.) tied on their first run, but Constable improved his time by one-fifth of a second on the second run. Hillary was forced to retire from the super sporting 1,500 c.c. class in consequence of a broken low-gear chain. B. S. Connell (1,500 c.c. Bugatti) was disqualified for discarding his wings. Newman therefore gained his third "first."

was fourth, and F. Marshall, whose G.N. Marshall-Special behaved very badly throughout the afternoon, was fifth.

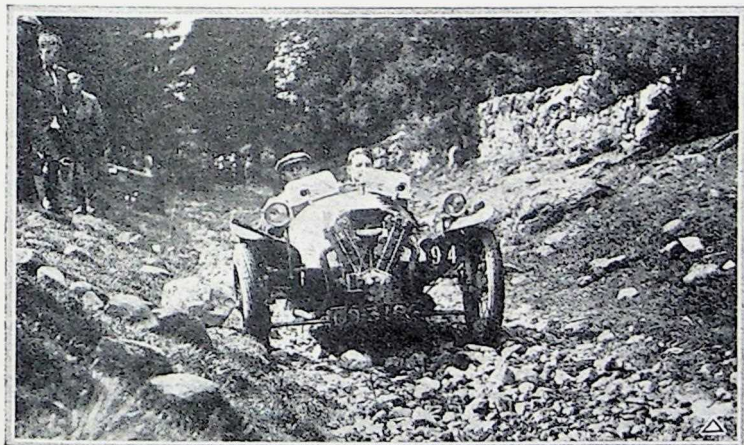
## SCOTTISH SIX DAYS'.

ONCE one of the most important competitions in the light car calendar, the Scottish Six Days' trials this year attracted only four car and four cyclecar entries. Of the four light cars only three started and only one was in the running at the end of the first day. The two retirements were a Rover Nine, which became bogged in a Colonial section, and a Lea-Francis, which suffered severely from overheating, presumably due to some engine fault. The car which survived the first day was a Weymann saloon 10 h.p. Mathis, driven by E. Ringwood. Within two hours of the start its sump was stove in by a boulder and all the oil was lost, but the driver managed to patch the hole and continue. He made a good climb of Amulree, but seized on Kenmore, due to the oil leaking away. Freeing the seizure he continued and checked in that night on time.

The cyclecars, all Morgans, also had a rough time last Monday, the most unfortunate being H. J. Vidler, who sheered a stub axle. The near-side front wheel parted company from the car and before a spare stub could be obtained Vidler was so late that he retired. The trial ends in Edinburgh on Saturday.

SAN SEBASTIAN GRAND  
PRIX.

THE San Sebastian Grand Prix, which should not be confused with the Spanish Grand Prix (to be run on Sunday next), was held on Monday last, over the famous Lascazte circuit. The race comprised 40 laps, or about 430 miles—a gruelling test for cars and drivers on such a winding course. Two categories only were arranged this year: up to 1,100 c.c. and above 1,100 c.c. The 1,100 c.c. class resolved into the usual Salmson-Amilear duel. It was won in splendid style by Martin (Amilear) in 6 hrs. 25 mins. 35 secs., Jourdan (Salmson) being second in 7 hrs. 11 mins. 22 secs. In the class above 1,100 c.c., five 2-litre Bugattis were the only cars to finish. The race was won by Materassi, in 5 hrs. 28 mins. 9 secs., showing the remarkable average speed, for such a circuit, of 126.6 k.p.h. (approximately 78.6 m.p.h.).



ROUGH STUFF. — Frank Spouse driving his Aero Morgan over some of the Colonial going which is typical of the "Six Days'."

by a big margin, the times being 39½ secs. and 43½ secs.

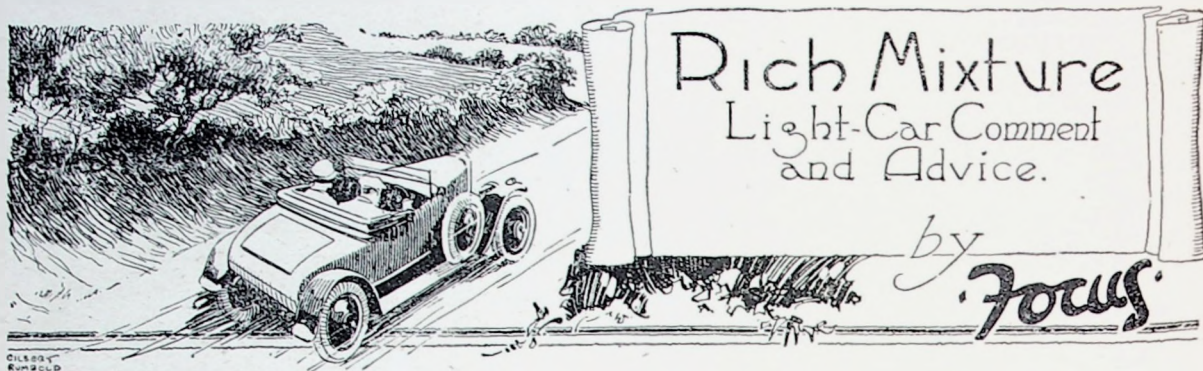
When the limit was raised to 1,100 c.c., F. A. Boggis (Aero Morgan) beat George Newman (Salmson) by three-fifths of a second, S. Constable (1,079 Amilear) being third. The class for standard sporting two or four-seaters up to 1½ litres was won by E. Hillary, whose Frazer-Nash covered the course in the very good time of 20½ secs. Newman's time was 31½ secs., and R. G. Nash (Frazer-Nash) was third.

The class for sporting cars up to 2,000 c.c. saw a victory for Newman, who this time flashed up the course in a smart Grand Prix Bugatti (1,950 c.c.), his time being 27½ secs. Hillary was second, his time being the same as in his last class.

The two racing classes for 1,100 c.c. and 1,500 c.c. respectively both drew seven entrants, but two were scratched from each, Lewis Humphries (G.N.-Kim-II) and Newman (supercharged Salmson) tied for first place with 25 secs. each, but on the re-run Humphries knocked his time down to 24½ secs. Boggis (Aero Morgan) was third.

As was expected by everyone, Malcolm Campbell ran away with the last class. The excitement was intense when he brought his car to the starting line, warming it up by sharp bursts and "tunes" played on the accelerator pedal. Nor did he disappoint his admirers. His time was 21½ secs. George Newman was second and clocked 24½ secs.; ½ sec. faster than Lewis Humphries, who was third. B. S. Connell





### **Traffic Chaos.**

I AM not a victim of insomnia, but I feel sure that I should soon develop symptoms of it if I were faced with the problems with which the Minister of Transport is endeavouring to grapple. High up on the list comes traffic chaos. The muddle in the metropolis—which is daily getting worse—was brought home to me very forcibly on a recent very hot afternoon when I endeavoured, with culpable optimism, to make a quick journey from Sussex Place to Hyde Park Corner. The conditions were akin to those which I experienced more than once during the great strike.

### **Almost Asphyxiated.**

WE progressed a few inches at a time, after stops which frequently lasted so long as five minutes. Meantime, exhaust fumes from buses, taxicabs and other cars, in the centre of which I was firmly wedged, led me to think gloomily of death by asphyxiation. To add to my troubles a hot sun was pouring down on my shoulders and the back of my neck, and, to sum up, I was never so thankful as when I emerged eventually into the cool green of the park.

Certainly, London traffic conditions are rapidly approaching a climax, and unless something is done there will be such a jumble one day, that the problem set by Humpty Dumpty will be insignificant beside it.

### **Brakes that Judder.**

THE ingenious solution of brake judder put forward in the correspondence columns of this journal recently struck me as being a very likely cause of a trouble which is only too frequently encountered on large as well as small cars. I was discussing the point with the works manager of a large London service depot, and he put forward another theory which throws quite a fresh light on the matter.

"In the old days of rear brakes only," he said, "drivers were far more cautious than they are nowadays, but now some men take almost suicidal liberties with their cars, relying solely on the full power of the brakes to pull them up. This leads to a tendency for brake drums to overheat, and eventually the fabric 'sweats' and deposits a gummy substance on the brake drum."

My friend demonstrated his point by holding up a drum which had just been removed from a customer's car. The strange part of it is that the gummy deposit—emanating, I believe, from a bind-

ing medium used when the fabric is compressed during manufacture—does not disperse, but seems to accumulate. My friend told me that in extreme cases he actually has brake drums polished in a lathe, as this tends to prevent further accumulations.

### **Any Solutions, Please?**

I WAS chatting the other day to a driver who probably has never known what it is to be without front-wheel brakes, and he has, therefore, come to expect a very high standard from the systems used on light cars. He drew my attention to a condition which I have often noticed, and upon which I have sometimes idly speculated, but I have never troubled to find out the whys and wherefores. "Why," he asked me, "do my brakes always act powerfully and like velvet first thing in the morning, their efficiency gradually growing less as the day goes on and the miles mount up?" During wet weather one might be tempted to think that the inlet of water into the drums was responsible, but I myself have noticed that the condition is frequently found during a perfectly dry spell.

### **Topping-up Made Easy.**

THOSE who have a battery box underneath the floorboards could save themselves a good deal of time and trouble by fitting a little trap door, preferably of the hinged variety, to give them convenient access to it. Taking up the floorboards is not a job which most of us care to tackle without previously donning a boiler suit—a fact which the battery of a car I had last year resented, and accordingly had to be renewed before half its expectation of life had expired.

The battery on my present Lea-Francis, the top of which is exposed in half a minute by opening a hinged trap, can be topped up with distilled water in five minutes, and after three months is in excellent order, although the starting handle has never been used to ease its burdens.

### **Engine Performance Variations.**

IT is well known that engines of the same make and type—they may have been produced side by side in the works—will sometimes vary very much in performance. Many theories to account for this have been advanced by expert and novice alike, but the one which suggests camshaft variations has always been the most acceptable to me, and now I am almost convinced.

I was helping a friend recently to decarbonize



the engine of his inexpensive but popular light car. When resetting the valve clearances we worked to the maker's instructions, allowing so many thous. for the inlets and so many for the exhausts. As a final check I decided to see whether the clearances remained the same over the whole travel of the cams, between the closing and lifting points, and I was not altogether surprised to find that they did not.

### Camshaft Inaccuracies.

IN some cases there were high places on the cams which reduced the clearance to zero and probably, when the engine was hot, would have lifted the valve very slightly. Others of the cams fell off, as it were, just before the opening point commenced and increased the clearance by so much as .002 in. With these discrepancies an engine could not, of course, give of its best, but the next engine of the series might have a more accurate set of cams and its performance would be correspondingly improved.

It is not commercially practicable to fit cams of absolutely perfect contour in a popular-priced engine, and as the resulting differences between any two normal engines are very small users have no cause for worry. The facts are interesting, however, in that they go far towards solving a rather perplexing problem.

### Would You Believe It?

AN incident almost as extraordinary as that on which I commented recently, relative to the lady who ran her car for a year and had not any idea of the purposes or existence of the grease-gun, came to my notice the other day. Two weeks or so ago, noticing a terrible rattle coming from the bonnet of a friend's car, I asked him what was the matter, and he said, "Oh, nothing, really, only a loose mag. coupling." A couple of days ago, after the noise had been going on for 10 days or more, I noticed that he had done nothing, and told him in a friendly way that I had really never heard anything quite so horrible, and that the



"'Ere, where's your rear light?"

"Blow the rear light—where's my wife and caravan?"



Ardent Feminist (as woman driver wins): "There—I told you we were as good as men."

He: "But look at the start she had."

Ardent Feminist: "So she ought."

matter should be investigated without any delay.

This morning he brought along the magneto for me to see. His diagnosis of a loose coupling was, it had turned out, not altogether correct—the trouble really lay in the forward bearing of the magneto. No doubt the modern magneto is one of the most reliable pieces of mechanism on a car, but if anybody had told me that it was possible to run a magneto for two weeks or so with hardly any trace of the front ball race remaining, I should certainly not have believed him.

### Delivery of New Cars.

DRIVING home from the Midlands the other day I was struck by the fact that one new car after another, with paint hardly dry, came tearing past me at 45 m.p.h. or so. I often wonder why some of the manufacturers do not urge their clients to visit the works and take delivery themselves. By this means they would eliminate all possibility of engines being damaged in the first bloom of youth, and at the same time they would be able to make personal contact with their customers; surely a very sound practice from the point of view of goodwill.

I feel quite sure that the goodwill of a manufacturer would go up amazingly if, when his customers' cars were ready for delivery, they received a nice invitation card, with R.S.V.P. on the bottom, asking them to call and collect the car and to look round the works. Of course, a certain section of the retail trade might not quite see eye to eye with this opinion, but I think that if all were done in the proper spirit nothing but good could come of it.

### Ignorance and Bliss.

A GOOD story was told the other day concerning a typical modern "mechante" employed by an importer of French cars. The concern in question have the chassis delivered without tyres, and one came over recently with the new Michelin semi-wellbase rims for straight-sided tyres.



The mechanic whose job it was to fit the tyres drew from the stores a set of covers and tubes of the beaded-edge pattern hitherto fitted, crammed them on to the rims and burst all five whilst inflating them before he discovered that he was trying to get a beaded-edge cover on to a straight-side rim.

### *Bang Goes the Bonus.*

THE facts are these. We were on a hill; in front of me there was a tram and behind a queue of traffic. The policeman waved us on and the tram ran back! Surely that was sufficient reason for arriving at Brooklands with my radiator dented in, a wing squashed and other evidences of a mild fracas. But would anyone believe it? Not they!

I believe I shall never live down the ragging I have had, since I was indiscreet enough to produce in public that damning evidence of carelessness. But does not the whole incident show how difficult it is to have and to hold a no-claim bonus? I could go for the tramway folk myself and keep the bonus in my pocket, but the time and trouble involved would be cheaply saved by sacrificing 10 per cent. of £12. That is what I have done.

### *Fenders are Coming.*

ONE moral pointed by the preceding paragraph is that the time seems to have come when bumpers or fenders—call them what you will—have a distinct sphere of utility. I know a man who is a very careful driver, and yet he has had to make three claims during the past 12 months. On one occasion his car was standing by the kerb and a boy wheeling a barrow badly crumpled one of the rear wings. On another occasion a big car with extremely powerful brakes cut in and stopped

dead in front of him, causing two new lamps to be needed; whilst on the third occasion a heavy horse-drawn van with a tailboard projecting horizontally astern moved back a foot or two in traffic and crumpled the front of his radiator.

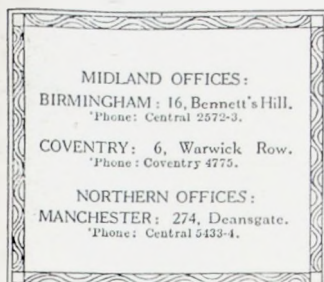
The latter mishap, admittedly, would not have been overcome by the use of fenders; but I really do believe that the time is coming when they will enjoy as wide a sale in this country as they have in the States for many years. Some people say, "I would just as soon buy a new wing after a minor mishap as a new fender," and there is something in the argument, but if fenders were not money savers I feel that our cousins across the Atlantic would not have taken so enthusiastically to them—neither would some insurance companies offer a reduction in the premiums charged for cars fitted with efficient types. In the future, incidentally, bumpers should be of greater use owing to the fact that the S.M.M. and T. has now fixed a standard height for them.

### *Saxon Memories.*

A CROSS which marks the spot on which a foul deed was done in Saxon times is to be found just off the Exeter road, near Hurstbourne. Although the monument was not erected until recent years, it is interesting because—as the inscription says—it marks "the spot, beyond the memory of time called Dead Man's Plack," on which Edgar the Peacable, King of England, slew his kinsman Earl Athelwold. There is, I believe, a story attached to the cross and to the plack, and from scraps of it which are told locally one is led to believe that the term "peacable," as applied to King Edgar, is a misnomer.

Anyway, stop and examine the monument when next you are Exeter bound.





### Police and Traffic Duty.

THE Home Secretary, Sir William Joynson-Hicks, made some very important remarks when addressing a gathering last week, particularly in connection with the police and traffic duty. He pointed out that in the Metropolitan district alone there are now seven hundred more constables on point duty than there were ten years ago, and that all the indications are that the number will continue to increase. He then commented on a letter recently addressed to *The Times* by Sir Arthur Griffith Boscawen suggesting that there should be a special police force paid out of the Road Fund to control traffic and thus free the regular constables for other duties in connection with maintaining law and order. Sir William Joynson-Hicks described this as "a matter for grave consideration." He continued by remarking that any man who regulates traffic must have "the powers of a policeman and the arm of the law behind him." We are pleased to note that the Home Secretary holds these views and that the matter of the proper control of traffic is receiving his attention. It seems wrong that one section of the road-using public should provide facilities for all classes to enjoy, and it is in the interests of everybody that the men who control traffic should command the respect of the public.

In the course of the same speech Sir William commented on the 20 m.p.h. limit. He said "some middle course must be found. We cannot keep on with respectable law-abiding citizens constantly breaking the law," but he made it clear that those who exceeded 20 m.p.h., although law-breakers, were, nevertheless, more sinned against than sinning.

### The Three-wheeled Cyclecar.

WE have been taken to task recently by readers for not directly associating ourselves with a Grand Prix race for three-wheeled cyclecars which, it appears, many people would like to witness at Brooklands. Some readers have suggested that *The Light Car and Cyclecar* should take it upon itself to organize an event of this kind, whilst others have complained that we have not slated various organizations which might promote such a meeting for their apathy towards three-wheelers during the past few years.

### "THE LIGHT CAR AND CYCLECAR" WAS

NEEDS OF USERS AND POTENTIAL PURCHASERS OF LIGHT CARS AND CYCLECARS, AND IT HAS CONSISTENTLY 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.

## Topics of the Day

advantages, but also, to their safety both for touring and speed work. It is not our intention either now or in the future to go back upon what we have said; we remain as convinced to-day as we have ever been that the three-wheeler has a very distinct sphere of utility. That the history of three-wheelers is punctuated by the failure of numerous makers to continue production of their cyclecars is no indication of any lack of merit of three-wheelers, rather it shows that most of those who have attacked this market have done so without appreciating that motorcyclists will be their best customers and must accordingly be offered a machine built upon lines with which they are already familiar.

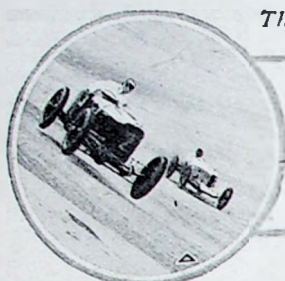
### Approved Inns.

WE extended a very cordial welcome to the Royal Automobile Club's scheme for arranging with hotelkeepers to supply meals to motorists for two shillings. This practical step earned for the club the esteem of very large numbers of road users, for, as we pointed out at the time, motorists to-day are not wealthy people, whilst they prefer ordinary home comforts to the elaborate menus and gilded surroundings of our larger hotels.

A new idea, the details of which have just been announced by the Royal Automobile Club, is to carry the two-shilling meal plan one stage farther by inspecting all the inns approved for the supply of two-shilling meals with a view to ascertaining their suitability for providing sleeping accommodation at reasonable charges. This is a most excellent development. At the present time many thousands of small car owners cannot enjoy long week-end runs and holiday tours on account of the difficulty of finding sleeping accommodation within their means. With the issue by the R.A.C. of lists of suitable inns these difficulties will be removed.

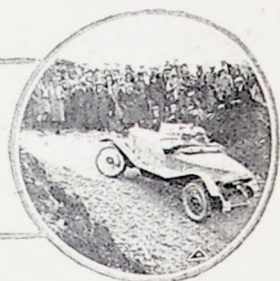


The Week-end Programme.



## BIG DAY AT BROOKLANDS.

SURBITON CLUB'S "LONDON-BARNSTAPLE"  
STARTS TO-NIGHT—MINIATURE GRAND  
PRIX AT ADDINGTON—PENDINE SPEED  
TRIALS.



**A**LTHOUGH London is generally supposed to be deserted in August, it is equally true that the popular holiday month brings thousands of provincial holiday makers to the Metropolis. These people are provided with a unique opportunity of seeing Brooklands at its best and they can be assured of an excellent afternoon's sport on Bank Holiday.

The track is within easy reach of London by road—the usual route being by Hammersmith Bridge, Kingston, Esher and Cobham—or by train from Waterloo to Weybridge Station (Southern Railway). The charges for admission are as follow:—To public enclosure, 5s.; transfer to paddock, 10s. extra; car alongside track, 10s. extra. Cheap garage facilities are available both inside and outside the grounds.

Monday's event is known as the August Bank Holiday meeting. Racing starts promptly at 1 p.m., but

spectators are advised to arrive at least an hour before the start, so that good vantage points for their cars—from which the races may be followed—can be obtained. The members' hill provides excellent picnic sites, or lunch may be obtained within the grounds.

The races will consist of long and short handicaps and a 50-mile handicap, the latter being the big item on the programme. In addition to racing machines such as Capt. Campbell's straight-eight two-litre Bugatti, Kaye Don's six-cylinder Sunbeam and Mrs. W. B. Scott's eight-cylinder Leyland-Thomas—the last-named, in the hands of the late J. G. Parry Thomas, having been one of the biggest attractions at the track during several previous seasons—there are over 20 light-car entries, including machines capable of lapping at well over the 100 m.p.h. mark. The full list of entries is given below:—

V. Gillow, four-cylinder Riley.  
G. Newman, four-cylinder Salmson.  
G. E. T. Eyston, four-cylinder Aston-Martin.  
L. d'Erlanger, eight-cylinder Bugatti (two entries).  
Capt. M. Campbell, eight-cylinder Bugatti and four-cylinder Talbot.  
J. S. H. Wilson, four-cylinder Austin.  
Kaye Don, six-cylinder Sunbeam.  
G. W. Olive, four-cylinder E.H.P.  
Mrs. W. B. Scott, eight-cylinder Leyland-Thomas.  
W. B. Scott, eight-cylinder Bugatti.  
Capt. W. Barnato, four-cylinder Bentley (two entries).  
P. L. Densham, four-cylinder Bugatti.

H. E. Tatlow, four-cylinder Lea Francis.  
P. Warde, four-cylinder Fiat.  
Clive Dunfee, six-cylinder Austro-Daimler (two entries).  
H. N. Thompson, four-cylinder H.N.T. (two entries).  
F. H. Boyd-Carpenter, four-cylinder Austin.  
Capt. A. Frazer Nash, four-cylinder Frazer-Nash.  
C. D. Wallbank, four-cylinder Humber.  
D. Fitzmaurice, six-cylinder Austro-Daimler (two entries).  
Capt. M. Campbell, four-cylinder Talbot.  
F. Hallam, four-cylinder Alvis.  
L. G. Rawlence, six-cylinder O.M.  
H. Stevens, eight-cylinder Bugatti.  
A. Whale, four-cylinder Calthorpe.

Jack Dunfee, eight-cylinder Ballot (two entries).  
Lieut. Col. Warwick Wright, eight-cylinder Stutz (two entries).  
F. H. Boyd-Carpenter, four-cylinder Austin (two entries).  
H. W. Purdy, eight-cylinder Thomas Special.  
G. A. Madham, four-cylinder Horstman (two entries).  
P. Turnbull, four-cylinder Fiat.  
R. Plunket-Greene, four-cylinder Frazer-Nash.  
Dr. J. D. Benjafield, four-cylinder Salmson (two entries).  
G. Duller, eight-cylinder Bugatti.  
J. Pickles, four-cylinder Vauxhall.  
C. K. Chase, four-cylinder Austin.

## THE LONDON-BARNSTAPLE OPEN TRIAL.

**T**HE seventh London-Barnstaple trial starts to-night, (Friday), the first motorcycle competitor being due to leave the Anglers' Hotel, Kingston, on the London-Portsmouth Road, at 10 o'clock. The organizers are the Surbiton Motor Club and the hon. organizing secretary is, as usual, Mr. A. Warren Lambert. Car and cyclecar entries are as follow:—

81. F. Arnold Boggis (10 h.p. J.A.P. Aero-Morgan); 82. G. A. Polard (10 h.p. Aero-Morgan); 83. L. Parsons (10 h.p. Aero-Morgan); 84. Miss J. E. Weeks (11.3 h.p. A.C.); 85. H. Jeffries (11 h.p. Frazer-Nash); 86. F. E. Tulley (9 h.p. Vernon-Derby sports); 87. C. L. Clayton (8.7 h.p. Amilcar); 88. Miss I. M. Selson (16 h.p. A.C.); 89. H. L. Bishop (3-litre Bishop's Special); 90. W. L. Bishop (3-litre Bishop's Special); 91. H. F. Hammelton (8 h.p. Talbot); 92. J. S. Simpson Lee (12.50 h.p. Alvis); 93. W. H. Schooley (15 h.p. Brocklebank); 94. T. M. Z. Wright (7 h.p. Austin); 95. O. H. C. Cornish (11.9 h.p. Frazer-Nash); 96. E. M. Douglas-Morris (23.4 h.p. Buick); 97. R. M. Andrews (12.50 h.p. Lea-Francis); 98. H. S. Stevens (12.50 h.p. Lea-Francis); 99. J. A. Driskell (9.5 h.p. D.F.P.); 100. K. H. Daniel (12.50 h.p. Alvis); 101. C. P. Dobson (M.G. super sports); 102. D. West (9 h.p. Fiat); 103. L. T. Redburn (3-litre Sunbeam); 104. P. H. Manners

(16 h.p. A.C.); 105. E. H. Buckingham (8 h.p. Sénéchal); 106. M. W. B. Hay (10.25 h.p. Talbot); 107. S. V. Seay (12 h.p. Salmson); 108. W. Joyce (— A.C.); 109. Peter Jackson (16 h.p. A.C.).

The route will be via Guildford, Farnham, Andover, Glastonbury, Bridgwater, Porlock and Beggars' Roost. There will be no secret checks and all non-stop sections and observed hills will be clearly marked on the programme. The premier awards are particularly attractive, comprising the Surbiton Challenge Cup, value 35 guineas, as well as the Nesbit Cup and the Olai Cup; the two last-named are to be won outright.

Every competitor starts with 100 marks and will lose one mark for each minute or part thereof that he is early or late at checks, ten marks for a stop on an observed hill, and five marks for a stop in a non-stop section other than an observed hill.

The first competitor is due in Barnstaple at about 10.40 a.m. to-morrow (Saturday) morning.

### Racing at Addington.

**A** UNIQUE opportunity of watching a miniature Grand Prix on the site of the old Addington golf course, near Croydon, will be provided on Bank Holiday Monday. The event, which is open to the South-eastern Centre of the A.C.U., is organized by the Whitgift (Croydon and District) Motor Club, and includes a ten-lap race for cars and a five-lap race for three-wheelers. The length of the course is 1 mile 50 yds., with one hair-pin bend and a gradual curve on an incline. Racing commences at 3 p.m. There will also be a number of motorcycle events.

The price of admission is one shilling, including tax, while there is sufficient free parking space for 5,000 cars.

B28

### Pendine Speed Trials.

**P**ERHAPS the most important Welsh event of the season is the August Bank Holiday meeting at Pendine Sands—one of England's largest natural speedways. The meeting is held on Monday, Tuesday and Wednesday, and although the majority of classes are for motorcycles the programme includes car races. For those who take a keen interest in sand racing the skid-cornering tactics employed, are well worth watching. The nearest large town is Carmarthen, where accommodation is fairly easy to obtain, although the influx of visitors for the meeting makes booking in advance a wise precaution. There is, in addition, a number of small villages in the neighbourhood where tourists may stay.





## FLORIO CUP

Brittany, July 17, 1927.

1<sup>st</sup> Laly.  
ARIES.

1<sup>st</sup> 1,500 c.c. Class.  
Sabipa.  
BUGATTI.

—using CASTROL!

## BELGIAN 24 Hours Grand Prix

Spa, July 9—10, 1927.

1<sup>st</sup> General Class.  
Senechal-Caerels  
EXCELSIOR.

1<sup>st</sup> 3,000 c.c. Class.  
Laly-Chassagne.  
ARIES.

1<sup>st</sup> 1,100 c.c. Class.  
Duray-Delano.  
ARIES.

—all used CASTROL

## "Sporting Life" Brooklands Meeting

July 16th, 1927.

1<sup>st</sup> 2<sup>nd</sup> 3<sup>rd</sup>

in all Seven Races

—used CASTROL!

## International Records

(Subject to confirmation).  
At Brooklands during the "Sporting Life" 100 miles Handicap on July 16th, Mr. I. R. Cobb, driving Mr. J. Pickles' Vauxhall broke the following records in Class D:  
50 Kilos., 50 Miles, 100 Kilos.,  
100 Miles, 1 Hour  
—using CASTROL!

At Monthery, on July 5th, 1927, Mrs. Stewart, driving Mr. Eldridge's Miller Car, broke the following records in Class E:  
100 Miles ..... 106.08 m.p.h.  
1 Hour ..... 106.16 m.p.h.  
500 Kms ..... 105.13 m.p.h.  
3 Hours ..... 105.18 m.p.h.  
—using CASTROL!

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

# Confidence

Care-free motoring implies abundant confidence  
—confidence in yourself—confidence in your car.

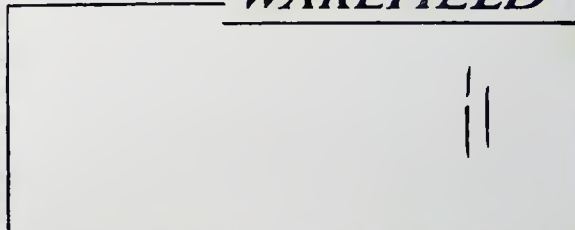
Let this confidence be well-founded! Make sure that every factor in the well-being of your car has had consideration. And no factor is more important than lubrication. Over 200 Motor Manufacturers who recognise this recommend you to use Wakefield CASTROL.

They know that this world-famous lubricant is the result of years of experiment, research and conscientious endeavour to provide the best that science can produce.

Performance is proof—for years past almost every achievement of speed, endurance and reliability has been accomplished on Wakefield CASTROL.

Prove the irreproachable quality of Wakefield CASTROL for yourself—try it in your own engine and note the improved performance. You will then realise why so many Motor Manufacturers recommend—

## WAKEFIELD



—the Product of an All-British Firm.



**45**  
**PER**

**WRITE FOR ILLUSTRATED  
LITERATURE AND FULL  
TECHNICAL SPECIFICATION  
OF THIS 9<sup>15</sup> FULL 4 SEATER**

**RAPID ACCELERATION  
SMOOTHNESS  
AND STABILITY**

**RENAULT**



RENAULT LIMITED,  
14, SEAGRAVE ROAD, WEST BROMPTON, LONDON, S.W. 6

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

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





## CYCLECAR COMMENTS.

By SHACKLEPIN.

### BRIGHTER PROSPECTS OF CYCLECAR RACING —THE BEART-SIRAN CHALLENGE AGAIN— A MORGAN CLUB IN SCOTLAND.

IT is gratifying to see how strongly my plea for the revival of cyclecar racing in this country has been supported, not only by amateur enthusiasts but also by those who have in the past made a name for themselves in this sphere of motor sport and can speak with authority on the subject. It seems strange that the word "revival" should ever have to be used in connection with cyclecar racing, for, in my opinion, three-wheelers are the most sporting of all road vehicles, but I suppose the "danger of three-wheelers" which has been so freely hinted at during the past year or two is largely responsible for the attitude adopted by some people when a three-wheeler race is suggested.

The idea has, I am glad to see, been emphatically denied by many correspondents. Mr. H. Beart, whose record speed of nearly 104 m.p.h. places him in a position to speak with authority on the danger or otherwise of three-wheelers, stated in a letter which appeared last week: "It is a fallacy to suggest that a three-wheeler is any more unsafe than any other vehicle of its class . . ." whilst Mr. J. J. Hall stated that he had covered 1,600 miles round Brooklands track in the course of attempts on cyclecar records since June, 1926, and had never had cause to fear a crash of any sort.

These statements should surely be sufficient to quell the doubts of any would-be organizers of cyclecar races who hesitate because they fear serious accidents. Exactly how the danger myth originated it is difficult to discover.

I am very glad to learn that no objections would be raised to the holding of a cyclecar Grand Prix on Brooklands track. The views of Col. Lindsay Lloyd, clerk of the course, are given on another page of this issue, where the prospects of

cyclecar racing are discussed editorially. There seems every chance, therefore, that next year the once familiar sight of three-wheelers striving for mastery round the great concrete oval will again be witnessed.

Apropos three-wheeler races, the following is a translation of a letter which has come to hand from M. Raymond Siran:—

Dear "Shacklepin,"

Mr. Beart, having failed to accept the challenge which I made on the occasion of the French Tourist Trophy and of the Bol d'Or cannot expect me, for several reasons, to come to race against him at Brooklands. Speed, pure and simple, does not interest me if the braking and stability of the vehicle is not considered. Only a road circuit can be possible for the match in question and it is not possible to race in England, as you have no road circuits or a circuit comparable with that which we have at Montlhéry.

Mr. Beart will be welcome in France. A fresh occasion presents itself in the Circuit des Routes Pavées in September next. I will enter with an 1,100 c.c. machine, so that we can compete on equal terms.

Yours, etc.,

RAYMOND SIRAN.

In view of M. Siran's remarks about his challenge not having been accepted, it is only fair to point out that the original challenge was made by Mr. Beart in a letter published in the correspondence columns of this journal on March 11th last. His actual words were:—" . . . I gather from M. Siran's previous letter that he is anxious to meet a Morgan driver in France. I would, therefore, suggest that he arrange a contest on Montlhéry track, when I shall be pleased to challenge him with my Morgan against his supercharged D'Yrsan over a distance of not less than 50 miles and/or with

an unsupercharged D'Yrsan over a distance of not less than five miles. This, I am sure, will be a very interesting race, and would give M. Siran ample opportunity of proving the speeds he claims for the D'Yrsan."

My readers will remember that M. Siran, in his reply, suggested changing the conditions of the race and put forward an alternative proposal that Mr. Beart should take part in the French Tourist Trophy—a suggestion that Mr. Beart could not comply with for business reasons. He did, however, accept the altered conditions in part, but nothing further has been done in the matter.

Personally, I should very much like to see the Beart-Siran match materialize in the form of a race pure and simple, and I think most cyclecar enthusiasts share my view.

I was very pleased to receive a letter last week from Mr. F. F. Bradshaw, informing me that a Morgan Club had been formed in Scotland. Mr. Bradshaw, who is the hon. secretary, stated that the club was actually founded in May and has now quite an encouraging membership. He intends to act in closest co-operation with the original Morgan Club, which, I feel sure, will give its Scottish off-spring all possible assistance.

This year the new body is contenting itself with events of a social nature, but next year it is hoped that several sporting fixtures will figure in the programme. Needless to say, I wish the Scottish Morgan Club every success, and hope that Morgan owners north of the Border will give it their hearty support. The annual subscription is 5s., and prospective members should note that the hon. secretary's address is 211, Great Western Road, Glasgow, C.4.



SUMMER is essentially the time of the year when sports cars come into their own. During the long, bleak winter months many of them lie snugly in some dark corner of their garages covered with a dust-sheet, their tyres flabby and their licence-holders containing expired forms.

But when the summer sun comes blazing forth and hoods and side-screens disappear, much elbow-grease is used, and, like butterflies, the sports cars emerge from their winter cocoons and stretch their cramped and weakened wings upon the tempting high roads. No unsightly hoods of the "umbrella" variety spoil their lines, and mud-guards designed more with an eye to lightness than protection do not matter.

The owners themselves feel new men; the urge to be out on the road becomes insatiable, and the desire for swift, easy travel irresistible. The dreams conjured up during those short, dark days of fog and rain become real. Visions which floated in the mind's eye during the weary train journeys, of the times to come when the straight, open road would unwind ahead of a shining radiator, and dull care and work would mingle with the blue smoke from a fishtail, are no longer visions but splendid realities.

And so the sports cars enter on their days. They flash along the main roads, they are to be found in out-of-the-way spots in Devon, Wales and the Highlands, and, of course, in the jolly, care-free seaside towns. Here they are in their element, and they are the envy of all as they "burble" along the promenades with their cargoes of pretty, gaily-clad girls and sleek, blazered and be-scarfed young men. All day long they work, these willing little cars, from the early morning scoot-down to the beach for a bathe until the final run around the houses for a "breather."

Sedate folk may say that staid saloons and low-powered "potter-buses" would do this work as well: possibly they would; but sports cars are essentially for the sporting, and who can imagine such a person boxed up in an unpretentious, self-effacing saloon? Gay colours, graceful lines, lively engines and wicked exhausts have it every time.

The beauty of a sports car is its versatility. There used to be a time when there was only one type of sports car, the standard chassis, with

everything lightened and a body of three-ply wood and aluminium, shaped like a thermos flask or an aeroplane fuselage. To-day the chassis are designed and built for sporting work, and many are the outcome of the makers' long experience of serious track racing. The bodies combine the latest streamlining principles with beauty and really weatherproof equipment.



# e SPORTS CAR.



The purchaser of a sports light car has a choice almost as bewildering in its variety as if he were buying an ordinary tourer. He has nearly 20 different makes to choose from and nearly 50 separate and distinct models, and he may pay from £150 to £600 for standard products; "specials" may cost him sums running into four figures. He may buy a light 10 h.p. two-seater car with a maximum speed of 65 m.p.h. and a consumption of about 40 m.p.g. for £165. For another £100 "Grand Sports" with overhead valves, long bonnets and low chassis with "guaranteed 70's" come within his scope. Another £150 puts within his reach superchargers, o.h. camshafts and twin carburettors, while a further £100 makes possible those much-coveted Grand Prix jobs—multi-valves, sixes and straight eights.

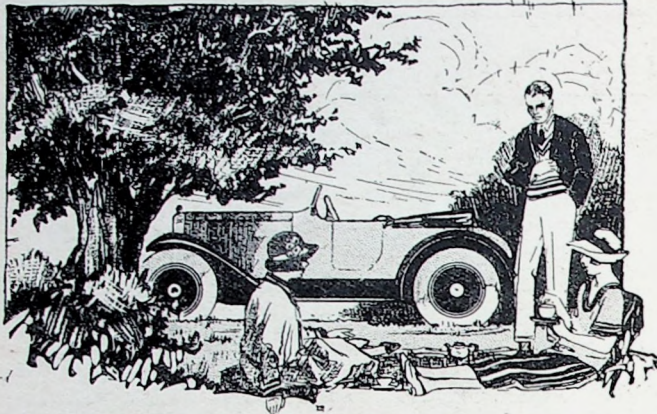
And so they prosper and flourish, these *voitures pour le sport*. They supply a growing demand for "speed," and they provide their owners with a constant source of interest, amusement and healthy recreation; while their capacity for serious work is not a whit less than any other type of car.

VIVE LE SPORT!

## REPRESENTATIVE SPORTS CARS.

These pictures show a representative group of sports cars as they are to be seen up and down our Islands, for their versatility endears them to all who love swift, easy travel to new places. The England Cup Austin (1) is equally at home in Piccadilly or on the banks of Loch Lomond, where the Alvis sports saloon (2) is shown. (3) is a Skiff Salmson and (4) a 9-20 h.p. semi-sports Rover taken at Herne Bay. Sports cars are in their element at the seaside, where they always command admiration. The Brooklands Lea-Francis (5) is just as popular in the country, while the Bugatti owner (6) is also exploring. The driver of the Vernon Special (7) is trying out his bus on "Bwlch-y."





## Our Readers' Opinions

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.

### PRACTICAL ASPECTS OF FREE-WHEEL DRIVE. Criticisms Criticised—Readers Favour the Idea.

#### All to the Good.

A point which seems to have been overlooked by critics of free-wheel drive is that the saving of fuel, oil and wear of transmission parts more than adequately compensates for the additional use to which the brakes would be put and the need for more frequent relining. In a way, the last-named point would be all to the good, because with the more lasting qualities of four-wheel brakes there is a tendency on the part of some owners to neglect them, with the result that pull-off springs lose their tension and points which should have lubrication become dry and cause the shoes to "hang up." Providing that there is some easy and definite means of throwing the free-wheel clutch out of gear, I see no objection to the idea—on the contrary I think it would be a very big step forward in the development of easier motoring. **BILFIN.**

#### Brake Design is Good Enough.

Your correspondent "Fixed Wheel" is too pessimistic in regard to the future of free-wheel drive. I am afraid that neither of the arguments he puts forward will "hold water"—indeed, I fail to see how any adverse criticisms of modern brake design can affect the undoubted advantages of free-wheel transmission. Braking on even the cheapest mass-production car is so powerful and reliable at the present time that the retarding power of the engine is negligible in comparison. Yet "Fixed Wheel" declares that an arrangement which does not allow the driver to make use of the benefits—such as they are—of the engine overrun, in addition to normal braking, is doomed to failure!

After studying the correspondence which has arisen on the matter of free-wheel drive, I am pleased—as a staunch advocate of the system—to see that the only genuine argument raised against such a drive is that modern brake design is not good enough. Personally, I think that the reverse is the case, and that present-day braking systems give ample retardation for people who drive with their brains as well as their boots. But should I be wrong, and should the brakes on the average car be not good enough for the average man, then undoubtedly one year of experience with free-wheel cars will improve brake design out of all knowledge.

In any case, it seems quite wrong that the undoubted advantages of free-wheel drive should be withheld from motorists simply because a few pessimists see fit to wag a super-critical finger at an entirely different component of the car.

**HAROLD BLADGON.**

#### Which is the Best Position?

None of your correspondents writing on the subject of free-wheel drive has considered the reverse gear. If a free wheel arrangement were placed between the gearbox and the road wheels the reverse gear would be put out of action; therefore the free-wheel would have to be fitted between the gearbox and the engine, and gear-changing would become a more difficult job than it is at present. **ELSIE VERNON.**

\* It was pointed out in the article, "Pros and Cons of Free-wheel Drive," and again last week by Major H. O. D. Segrave, that a locking device which puts the free wheel out of action when necessary can easily be arranged. This locking device would be used for reversing.—**EN.**

#### Free Wheels at Axle Ends.

I am afraid your correspondent Mr. J. Odell has overlooked several "snags" when he suggests that it would be practical to fit a free-wheel arrangement to each end of the rear axle shaft, thus eliminating the need for a differential and at the same time providing a free overrun. In the first place, only the one rear wheel would take the drive on a bend—and that the inside wheel. This might be all right on good roads, but when taking difficult hair-pin bends it is highly undesirable that only one wheel should drive, and more undesirable still if that wheel be on the inside of the curve, where the surface is often loose. It must not be forgotten, too, that the inside wheel on a bend does not travel so far as the outer one, and as it would be taking the drive the effect would be equivalent to raising the gear ratio—not a very desirable state of affairs on, say, Lynton Hill.

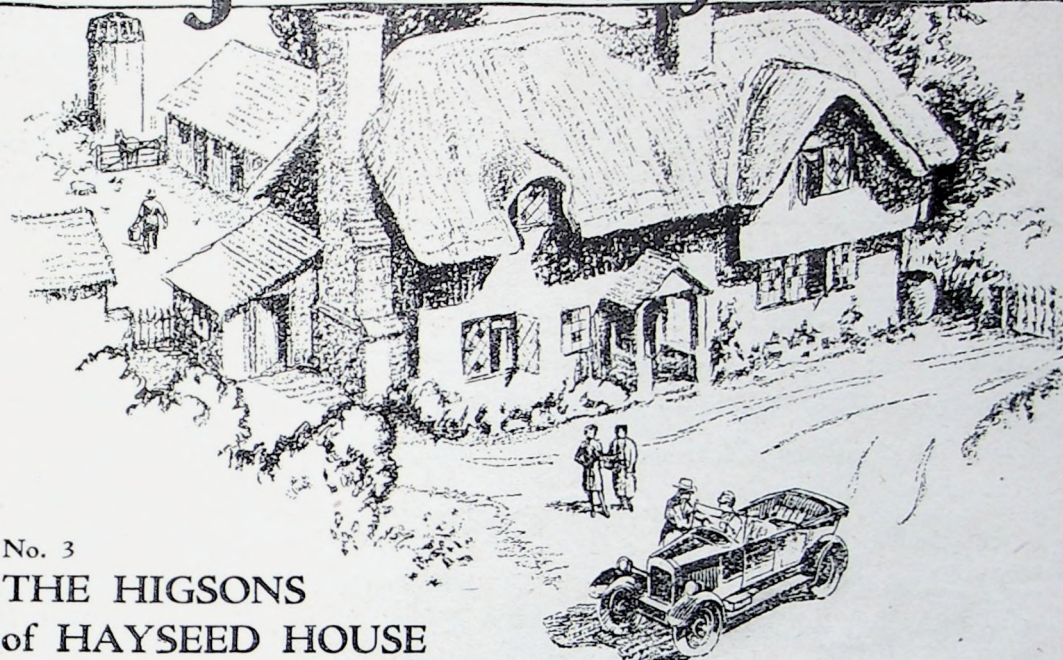
I am afraid, too, that the arrangement suggested by Mr. Odell would put a considerable strain on other parts of the transmission, as, when the car was straightened out quickly after rounding a sharp bend, the outer wheel would take up the drive suddenly and a "snatchy" effect would be produced. There is yet another point: any free-wheel arrangement must be capable of being locked so that the reverse can be used, and it would obviously be far more difficult to fit a satisfactory locking device to each rear wheel than it would be to fit such a device elsewhere in the transmission system.

Personally, I am all in favour of the idea of free-wheel transmission and think it has a great future, but I cannot say that I see much hope in Mr. Odell's suggestion.

**H. S. SYDNEY.**



# TROJAN *happy families*



No. 3

## THE HIGSONS of HAYSEED HOUSE

PRICES FROM

£ 1 2 5

[and all TROJAN cars carry the makers' free maintenance undertaking for the first 5000 miles.]

*All the names and addresses are fictitious, but in this series we intend portraying the lives of typical Trojan owners, showing the new freedom which the possession of a Trojan 4-seater car has brought.*

MR. Higson thought his farm was perfect. He couldn't think of any equipment to improve the model farm; but of course he grumbled at the weather, so he really was a farmer!

Then one day his daughter Mary's young man called in a TROJAN four-seater.

Mr. Higson tried the starter lever, worked from the driving seat: he had never seen anything so cunning as the three-purpose switch key, and when, after five minutes' explanation, he drove the TROJAN round, he decided that here was something that he, his farm, and family had been missing all their lives—so they weren't going to miss it any more. He bought one that very afternoon.

MADE BY LEYLAND MOTORS LIMITED • LEYLAND • LANC'S

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.

B35



# It was true after all!

When the man who lives in one of the new houses told the Major about Karpol the conversation had to be adjourned. This was because the Major was sceptical on the most important point of all.

He did not believe it was possible to take an unwashed car—a car with mud and dust on it—and to clean and polish

it there and then without scratching the paint.

The adjourned meeting was held in a garage!

Here the sceptic saw a few drops of Karpol placed on an old soft cloth and applied to a car on which there was a lot of dust and not a little mud. No water was used at all and this was the car, mind you,

of a very proud man. He saw the dust and the mud go—vanish! and the surface come clean and bright. He saw the owner take a second cloth and lightly finish off. The surface was now spick and span. Scratched? No—not scratched at all.

The Major was invited to try his own hand on another part of the car. Same

result—a fine finish and not a sign or symptom of a scratch!

He was—well, he was surprised!

But Karpol is used in his own garage now, and he finds that it not only saves no end of time and trouble but that it is actually preserving the paint of the car.



RECKITT'S  
**Karpol**

RECKITT AND SONS LTD., HULL AND LONDON



## OUR READERS' OPINIONS (contd.).

## Awkward Road Situations—Interesting Replies.

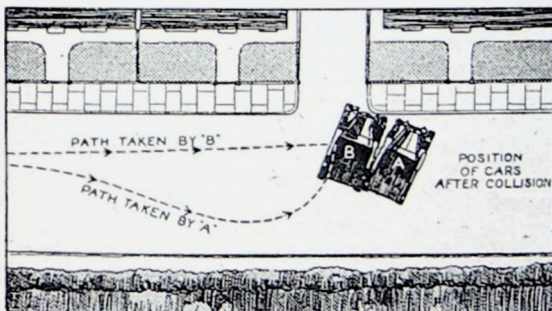
**"A" in the Wrong.**

You invite opinions on the road situations detailed by your correspondent last week. My view of the case cited by "R.E.S." is that there can be no doubt that "A" was in the wrong. The fact that he deviated from his proper side might mean that he wished to pull up on the opposite side of the road; the reason for his manoeuvre does not concern "B." In any case, "A" should have made it quite clear that he was going to cross into the gateway, and, moreover, any driver with a "safety" sense would have made certain that there was no following traffic to create a danger. The very fact that a car was following when "A" turned shows that he was not careful. P.C. 30.

**Passing on the Near Side.**

The "Awkward Road Situation" mentioned by your correspondent "R.E.S." is interesting, especially as your correspondent is inclined to place the blame for the accident on "B." I would without any doubt blame "A," for the following reasons:—If "A" put out his hand before pulling over on to his wrong side of the road "B" would, in my opinion, be perfectly justified in starting to pass him on the near side immediately there was room to do so. If "A" did not put out his hand before pulling over to his wrong side of the road, he would have been equally culpable for not giving a signal.

I think it behoves "A" to make absolutely certain that in doing his manoeuvre there will be no accident. He can easily do this by pulling into his near side about 50 yds. to



A plan view of the accident referred to last week by "R.E.S." The car (A) pulled over to the off side and then turned into the gateway on his left without giving any signal.

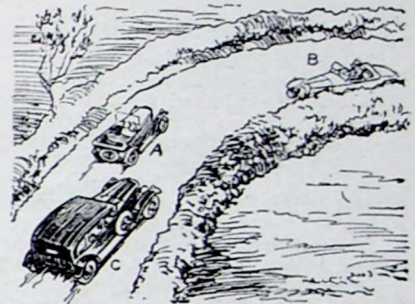
70 yds. from his gateway. He can then proceed very slowly, hugging his near side, and observe the road each way. If there is anything coming behind or in front he can gently stop (before he arrives at his gateway), and wait for it to pass before attempting to turn in.

I cannot recall a similar experience on the road, but if a driver in front of me put out his hand and started to draw over to his wrong side of the road, I should commence to overtake on his near side, and I should be very surprised if he appeared again in front of me. A.A.M.

**A Different Opinion.**

I have read with interest the letters of "R.E.S." and "A.N." in last week's issue of your excellent journal, and venture to express my opinions on the situations detailed in their respective letters. In the first case I am in entire agreement with "R.E.S.," both as to his allocation of blame to "A" and "B" and his own procedure in similar circumstances. Undoubtedly the blame for the collision rested entirely on "B." It is positively criminal to pass on the near side in any but most exceptional circumstances, and then only by direct invitation of the driver of the car being passed. Great lack of road courtesy and want of consideration for other road users were, however, evinced by "A," and the exercise of these excellent qualities would probably have avoided the accident.

The situation mentioned last week by "A.N." What signal should the driver of car (A) give?



In the case submitted by "A.N.," had an accident occurred in the circumstances detailed, the driver of car "C" would have been wholly and solely to blame; there would seem to be no room for argument to the contrary. To ensure safety for all three cars, "A" should, in my opinion, have given the "turning-right" signal, following it with the "come-on" signal when he had rounded the bend, passed "B" and had a stretch of clear road visible in front.

By doing so, he could have caused no possible danger to anyone. "C" would keep behind "A" in anticipation of the latter's right turn, and, although he might be momentarily puzzled or annoyed when "A" did not pull over to the off side, the appearance of "B" would immediately explain the cause of the signals. A. C. HARVEY.

**Passing on a Bend.**

The situation given by your correspondent "A.N." occurs frequently on the coast road from Bridlington to Scarborough. About one mile north of Reighton a series of steep dips and rises gives the equivalent

of several blind corners. My own procedure, necessary several times per week in the summer, is to give the "I-am-slown-down" signal *violently*. This has always proved effective and saved many nasty situations.

A word, with your permission, to holiday motorists. Learn the local registration letters of the districts through which you are passing, and if a local car slows down apparently without reason, do not "blind" past. The local man probably knows the hidden snag. J.B.H.

## Cyclecar Racing—First Practical Steps.

**A Meeting to be Held Soon.**

The correspondence aroused by "Shacklepain's" remarks on cyclecar racing would seem to have proved that, in your readers' opinions at least, such racing is desirable and would tend to improve the breed. Mr.

"Grand Prix" H. George Morgan inclines to the belief that "the breed" has reached a sufficiently high standard, and rightly defends our designers by instancing the increase of speeds from 60 m.p.h. in 1914 to 104 m.p.h. to-day; but "flying kiloms." mean nothing except that the engine designers have been busy. There has been no such acid test of

chassis, steering, road-holding and brakes, as only a Grand Prix type of race can provide, for many years.

A race under Continental road conditions would provide such a test and put a premium on such designs as will "hold the road" rather than "hurtle through the atmosphere."

Very well, let us race, then.

I have already ventured to approach several of the more important cyclecar enthusiasts, both trade, club and amateur, and active support has been forthcoming from all quarters. The next step must be to form a committee to go into ways and means, and, lacking an authoritative body to appoint such a committee, it would seem that it



## OUR READERS' OPINIONS (contd.).

must be of spontaneous growth. Several of the people with whom I have been in touch have already agreed to serve on this ad hoc body; may we appeal through your columns to club secretaries, traders, manufacturers and others who are interested in the sporting side of the cyclecar movement, and who would be willing to serve, to send in their names as soon as possible?

Mr. Williams, of Metro Motors, has very kindly placed an office at my disposal for the time being, and correspondence may be sent to me at 45, Newman Street, W.1. (Phone, Museum 9953.) A meeting will be held at an early date.

One pressing need remains. The chairman of this committee must clearly be a person of more than ordinary ability, mild-tempered withal, and of unquestioned standing in the cyclecar world. Who can this be? Echo answers, "Shacklepain"! (or, failing him, his deputy). One sees "Shacklepain" reaching rapidly for his hat; but, Mr. Editor, for the love of . . . cyclecars, use your influence to persuade him!

GRAND PRIX.

### Start With Small Events.

Mr. Beart's letter last week advocating short-distance races and a short-distance Grand Prix exactly coincides with my own idea of what is most wanted for cyclecar racing. Big events such as 200-mile

Mr. V. A. Cation's races take a lot of organizing and unless properly managed are very liable to become boring for the spectators.

By all means let there be one such event every now and again, or, better still, let the J.C.C. remove the ban on three-wheelers in the 200-Mile Race. This would ensure the entrants of proper organization and consideration, while the spectators would have the advantage of comparing the performances of the three-track machines with the four-wheelers.

Before this, however, I think it almost essential that there should be a number of minor events arranged in order that enthusiasts may have a chance to become accustomed to the conditions and to get their machines into trim. The starting of three-wheeler racing with a big event would, I think, ruin the movement's chances of success, for few three-wheeler owners have had any track experience, whilst their machines are tuned more for fast touring and occasional speed trials than for long endurance races.

In my mind's eye I picture, say, in a year's time, one big event for three-wheelers which will be similar to the motorcycle T.T. races.

In the meantime I feel that cyclecar racing will progress most satisfactorily if it is encouraged by comparatively small events of about 25 and 50 miles. Tracks similar to the miniature T.T. type, with laps about two miles in length, seem to me the most suitable, but an occasional event at Brooklands would be of great value in giving drivers a taste of the conditions encountered in serious track racing.

V. A. CATION.

### Why Next Year?

I see that the Big People of the cyclecar racing world are now writing in your correspondence pages; but why is it that they persist in talking of next year? Is it because they are afraid to race standard machines over a Grand Prix course and have not time to make and tune specials? I am sure that the D'Yrsan

and Sandford concerns would both enter standard sports models, if they entered at all. They both use production models in the French races, and these are surely more gruelling than a Grand Prix at Brooklands.

I am very glad to see that Mr. J. J. Hall has taken up the cudgels, as he usually gets what he wants. Two trophies have now been offered and it only remains to form a club to do the organizing. Cannot this be done at once? Many people seem willing to serve on the committee.

THREE-SPEED.

### Coventry Victors Would Take Part.

With reference to the recent correspondence on the subject of racing three-wheelers, our experience shows that there is not any more risk at speed on three wheels than on four, provided the machine is suitably designed for the purpose. In this

Improving the 750 c.c. Machine. connection the new wired-on type of tyre is of considerable advantage, making it almost impossible for the tyre to leave the wheel. We believe that the future of three-wheeled cyclecars is assured and that it should be officially recognized as a sporting as well as a utility machine. At present, even where three-wheelers are allowed to compete in races, their development is retarded by the fact that there are seldom classes under 1,000 c.c.

We think it has been amply proved that an efficient engine of 750 c.c. is more than sufficient for the purpose, and I can say that, if a 750 c.c. class were instituted, my firm would support it and would then build racing machines.

For and on behalf of

THE COVENTRY VICTOR MOTOR CO., LTD.,  
WILLIAM A. WEAVER.

## "First £5" Insurance Policies.

I am looking, with very little success so far. I am afraid, for an insurance company which lives up to its claims and the first and foremost principle of which is not "haggle, quibble—anything but pay." I have

"Knock-for-Knock" but I have a reason for this unfortunate "malady." On a recent fine

day I was proceeding along a main road at about 15 m.p.h. ("Heard that one before," I suppose you say. Perhaps you have, but you have not seen many roads in such choice condition as the one in question—the great racer in Wembley was child's play to it.) I was about to pass a turning on my left, and had just passed a milk van on my right and a motorcycle and sidecar immediately behind it, when out of the side turning appeared a little car. When he saw me, the driver did not look too happy at the wheel and careered across the road, striking my front wheel. His dramatic exit was accompanied by the tuneful wailing of an electric horn. Of course, he stopped—my car stopped him and there was no need for him to waste energy in using his brakes!

I got out, saw he was very shaky and took his name and address, sending one of the occupants of his car for the policeman about 50 yards away. I was careful not to let the cars be moved, pointing out to the constable that it was impossible to tell which way he intended turning, as he was straight across the road. He admitted he was learning to drive, and, when questioned, admitted that I was in no way to blame. He pointed out to the constable that I did not sound my horn. I do not deny it. Anybody who has been driving for more than three months knows that it is unusual to sound one's horn past every little turning,

B38

and that there is no reason, when entering a main road, to assume it clear, as this man admitted doing.

Ah, now we come to the interesting part—enter the insurance companies. I went down and informed my insurance company. I had at that time a "first £5" insurance policy and pointed this out; there was really no need, as the concern had already got this piece of information ready for me. Now, as the other man was liable, the other insurance company (theoretically) should pay my damages, but as these two companies had an agreement, à la "knock-for-knock" system, my company informed me it was paying the other man's claim, less £5, of course! If my company is paying the claim of the other side, surely my "first £5" agreement does not enter into the matter.

The manager of my insurance company agreed with me (theoretically), but held out; if I wanted my £5 I must go to the other side for it. This I did. I got an offer of 50s., so I went to see them to ask the reason for offering 50s. in lieu of £5, but—as they pointed out—I was entirely to blame! Their assured blew his horn, I did not—surely that was enough. But no, so proud were they of this piece of news that they produced an independent witness, driver of the milk van, to swear that their assured blew his horn three times and I did not blow it once (this particular milkman must make a hobby of counting the number of times cars blow their horns). When I said he was independent, do not be prejudiced by the fact that he lives almost next door to their assured. As there is no doubt about my guilt why did they offer me 50s.? Surely brotherly love has come to stay. I could not afford to spend any more time over the business, so I took the 50s. and ended the matter.

BM/BGTT.



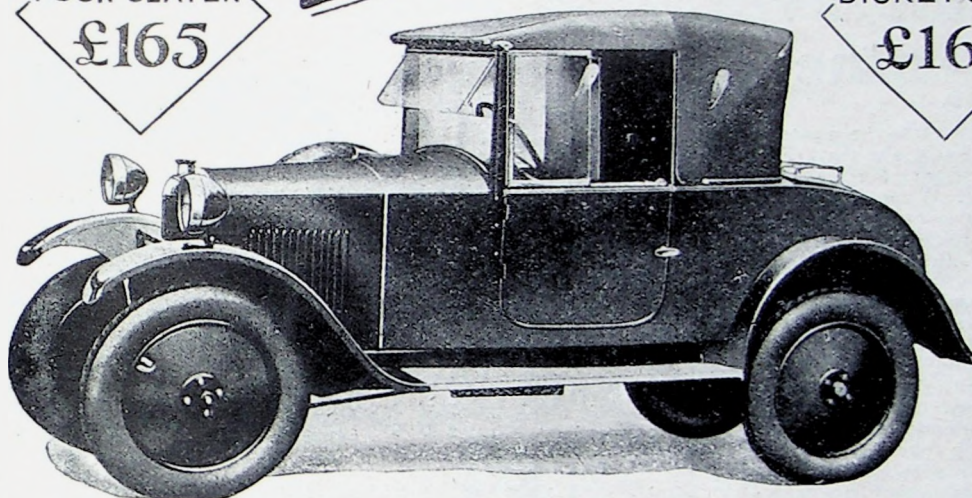
# MOTORING ECONOMY

SALOON TYPE  
ALL-WEATHER  
FOUR SEATER

£165

CABRIOLET  
WITH  
DICKEY SEAT

£165



The 7-12  
**Peugeot**  
(PRONOUNCE IT PUR-JO)

**PEUGEOT  
LIGHT CAR  
SERIES.**

7-12 h.p. Cabriolet £165

7-12 h.p. All-weather  
Four-seater - - £165

9-20 h.p. All-weather  
Four-seater, Four Wheel  
Brakes - - - £185

**Round town or round country  
—the ideal light car for milady.**

**PEUGEOT (ENGLAND) LTD.**

SHOWROOMS:

80, Brompton Road, London, S.W.3.

Opposite Harrods. Phone: Kensington 9601

WORKS AND SERVICE STATION:

Filmer Road, Fulham, S.W.6.

Phone: Putney 4621

Seven  
Horse Power.

Seven  
Pounds Tax.

Fifty Miles  
per hour.

Fifty Miles  
per gallon.





## A stitch in time saves nine

THAT is the motto of the Service Company's After-Sales Service Department. When we sell you a motor car our interest in you does not stop there. We have guaranteed you satisfaction.

We encourage you to come and see the service department as often as you want to. Nothing is too trivial for them. Small faults often become big aults if they are not attended to at once. That is why you need never feel shy about seeking our technical advice about anything you can't quite understand or master yourself.

When you buy from the Service Company you are entitled to make use of this wonderful free service as much as you want. It makes just one more reason why you should make a point of buying from the firm that really does take an interest in their customers.

Come and have a look at our showrooms and get full particulars of our deferred payment scheme . . . the scheme that makes buying so easy you never feel it.

**FREE!** Write to-day for a copy of our novel catalogue, "The Diary of a Car Tester."



### ROVER.

4-Seater Tourer .. £225  
£45 down.

12 payments of	£15	15	0
18 "	"	10	15 0
24 "	"	8	5 0

### NO DEPOSIT SCHEME.

We can supply any new car. First monthly instalment secures delivery.

### SWIFT.

4-Seater Touring .. £210  
£42 down.

12 payments of	£14	14	0
18 "	"	10	0 8
24 "	"	7	14 0

### SINGER.

4-Seater Senior .. £220  
£44 down.

12 payments of	£15	8	0
18 "	"	10	10 2
24 "	"	8	1 4

### WOLSELEY.

4-Seater Touring .. £215  
£43 down.

12 payments of	£15	1	0
18 "	"	10	5 5
24 "	"	7	17 8

### JOWETT.

2-Seater .. £150  
£30 down.

12 payments of	£10	10	0
18 "	"	7	3 4
24 "	"	5	10 0

### SINGER.

Junior 8 h.p. .. £148 10 0  
£29 down.

12 payments of	£10	10	0
18 "	"	7	3 4
24 "	"	5	10 0

### USED CARS.

Should you be wanting a second-hand car, we have a number 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 reputation.

### AUSTIN "7."

7 h.p. Chummy .. £145  
£29 down.

12 payments of	£10	3	0
18 "	"	6	18 6
24 "	"	5	6 4

# The Service Company Ltd.

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

Telephone: Holborn 0666 (3 lines).

Telegrams: "Admittedly, London."

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



## OUR READERS' OPINIONS (contd.).

### Delivery Charges.

Your correspondent "Rodeo" is really rather amusing. He takes a very long time to say what amounts to very little, but he does not seem to appreciate the fact that we are on his side, as we believe that delivery charges should be included in the catalogue prices. Will "Rodeo" tell us in his next letter whether, in the event of manufacturers including such charges, he will expect a rebate if he collects his car at the works? If he will answer this simple question with a simple "Yes" or "No," we shall know whether he is reasonable or not.

As regards price-cutting in the form of giving customers delivery charges, licensing, insurance, etc., we are quite aware that some agents will risk being placed upon the stop list of the M.T.A., but the practice is to be deplored, as every agent has a right to the profits allowed him by the manufacturer. Why should he give his profits to the public? "Rodeo" does not state what business (if any) he is in, but we feel perfectly satisfied that he does not share his profits with the public.

Per pro R. M. VIVIAN AND Co.

R. M. VIVIAN.

### The Uses of a Dash Clock.

As one who has been motoring since 1913, I am afraid I cannot agree with "Focuss" that a clock is a luxury. Even on pleasure runs I should feel lost without my clock, and I think your readers will agree that a glance at a well-placed dash clock takes one's attention from the road for a considerably shorter time than a glance at a wrist-watch, and with so many novices on the roads the less one's attention wanders the better.

### An Interesting Pastime.

Often when on the road my wife will ask me what time shall we get to the next important place. I glance at the clock and state a time, but do not look at my clock again until we reach the place in question, so that I do not "blind" or slow down. I find it quite an interesting pastime to forecast one's speed in this way. There is another use I make of my fascia-board clock. I often visit friends in the wilds of the country, and there clocks are not too reliable. I glance at a village clock on the way to compare it with the dash clock, if necessary setting the latter right (a difficult thing to do to a wrist-watch whilst travelling), and I can then give my friends the correct time as well as being sure myself of the law.

To change the subject, I think many of your readers will be interested to know that the attendant on the parking ground on the fish quay at Torquay is, so I am informed, the man who steered the "Vindictive" at Zeebrugge. In passing, may I remind all motorists to be careful not to leave their cars in the main streets in Torquay, as these are very narrow. The Devon police are an excellent body of men, and in my opinion very fair to motorists, but of necessity they have to take action if drivers leave their cars in the narrow main streets.

L.B.J.

## CONDENSED CORRESPONDENCE.

Mr. William Dawe (St. Dominic) writes to express his appreciation of the excellent service of S. Smith and Sons (M.A.), Ltd. He recently took a carburettor to them, which had been tampered with by a previous owner—the jet having been reamer out—and they took much trouble in supplying him with several jets for test purposes so that he could obtain the best setting.

"Kratos" writes in appreciation of the service of Messrs. Lovatts, of Mitcham. He was held up on the Croydon by-pass at 9 o'clock one recent Saturday morning and 'phoned this concern. "Although it was a Saturday morning and raining hard," our correspondent writes, "they no sooner heard that the car was a Jowett than they seemed to regard it as a personal duty to get me going." The job was not finally completed until noon, but the charge was only 3s.

## INFORMATION WANTED.

LAFITTE.—Owners' experiences of this car would be welcome.—N.R.R., 4, Lesseps Road, Liverpool.

WOLSELEY.—The opportunity to buy or borrow an instruction book for the 1921 10 h.p. model would oblige.—G. A. Masters, 13, Wycliffe Road, Urmston, Manchester.

AUSTIN SEVEN.—Readers' experiences of the Cup Model, with particular regard to maintenance of tune, speed and road-holding qualities, would be appreciated.—W.H.M., 62, Victoria Road, New Barnet, Herts.

AUSTIN SEVEN.—Readers who have used both 26-in. by 3.5-in. and 27-in. by 4-in. tyres on this car are asked to give their experiences with regard to rolling on corners and mileage obtainable.—F. Hossell, 112, Tulse Hill, S.W.2.

LOST.—Between Stamford and Doncaster, a 6-volt Lucas dynamo, probably with a certain amount of broken aluminium casting attached to it.—O. Turn, c.o. the Editor, *The Light Car and Cyclecar*, 5-15, Rosebery Avenue, London, E.C.1.

## CLUB ITEMS AND SPORTING EVENTS.

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

A treasure hunt will be held on July 31st. All the clues will be easily accessible by car and located within a 15-mile radius of Leeds. Cars must be in the Square at Leeds ready to start at 2 p.m. After the hunt, tea may be obtained at Weiberby. The first prize will be motor accessories to the value of two guineas and the second prize accessories to the value of one guinea.

### J.C.C. YORKS CENTRE.

The Yorks Centre of the J.C.C. held another novel competition recently. The first section was a slow non-stop hill-climb up the well-known Jacob's Ladder. The slowest time was put up by a motorcycle rider, who subsequently won the event. At East Keswick competitors were allowed three minutes in which to eat a very dry bun, inflate a large balloon with air and tie it up with a piece of string. The balloon was to be handed in at the finish unburst and properly inflated. After passing through a section run on the lines of a point-to-point, entrants had to change the plug of No. 1 cylinder with that of No. 4 in three minutes. On the return journey the entrants passed through Dunsford Lane End, where they were given an envelope full of confetti, in which their next instructions were hidden. On the way, however, they had to search the village green at North Deighton for "hidden treasure." This took the form of small "Jacks-in-the-box," bearing numbers corresponding with the competitors'. One lady succeeded in finding all except her own, and only one entrant succeeded in changing his plugs in the allotted time, but his otherwise excellent performance was spoilt in consequence of broken steering gear. The finish was at the Mansion, Roundhay Park, where tea was served. The results were—1, C. D. Wilson (Alvis); 2, T. Thornton (Wolsley); 3, J. Barker (Morris-Cowley).

### LIVERPOOL M.C.

The Liverpool-Edinburgh-Liverpool trial has been postponed from July 23rd until September 3rd.

### FORTHCOMING EVENTS.

July 29-30.  
Surbiton M.C. London-Barnstable Trial.

July 30.  
Scottish Six Days' Trial Ends.  
Leeds M.C. Gymkhana.

July 31.  
Spanish Grand Prix.  
York and D. M.C. Trial.

August 1.  
B.A.R.C. August Open Meeting.  
Ipswich and D. M.C.C. Inter-club Speed Trials.

August 6.  
Redditch M.C. and C.C. Annual Charity Gymkhana.  
Woking and D. M.C. and C.C. "Seven Counties" Trial.  
Stalybridge and D. M.C. Speed Trials.

August 7.  
Morgan Club Run to Frensham Ponds, Hindhead.  
Scottish Morgan Club. Inter-club Meet at Bodesbuck.

### EASTERN CENTRE A.C.U. SPEED TRIALS.

The Ipswich and D. M.C.C. are organizing inter-club speed trials for motorcycles, sidecars and light cars at Shrubland Park on August Bank Holiday, starting at 2.30 p.m. There will be four classes for cars, and the awards include the Shrubland 15-guinea cup, a seven-guinea cup, and the "Groves" cup.

### "SEVEN COUNTIES" TRIAL.

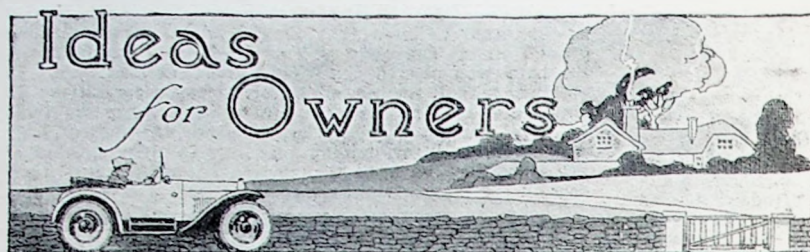
The Woking and D. M.C. and C.C.'s "Seven Counties" Trial will be run on August 6th and 7th and will start from the Bridge House Hotel, Staines, at 10 p.m. The route lies through Frome, Dunster and Lynmouth, and finishes at Minehead (Somerset) at about 11 a.m. on August 7th. The event is an open one and entries must reach the hon. secretary of the meeting, Mr. E. S. Hutchence, 33, York Road, Woking, not later than the first post on August 3rd. Mr. Hutchence would be glad to hear from anyone willing to act as an observer in the neighbourhood of Dunster or Lynmouth on the morning of the 7th.

### J.C.C. LIVERPOOL AND NORTH WALES CENTRE.

In true "trial" weather, the Centre held a paper chase and picnic on July 24th. The trail was laid from Ewloe Green along the by-ways which lie in the triangle formed by Hawarden, Mold, and Llangollen, and commanded some delightful and unusual views. The course, although not difficult, provided useful driving experience; the passengers were kept busy looking out for the trail and the red splashes denoting hidden checks; these were numbered pegs—one for each car. Whilst all the cars managed to follow the course with deviations, none found every check; prizes were, therefore, awarded on the number of pegs recovered. Prizes were awarded to Mr. Hormsby (8), Miss Wilson (6), and Mrs. Harrington (5). Their passengers also received awards. The ladies' prizes were very generously given by Mr. H. S. Phillips.

The picnic was "departmentalized," each section picnicking in its own car, conversation being carried on by means of signalling flaps and special messengers. In spite of this handicap, there was no lack of convivial companionship, which reached its height on adjournment to Llangollen for the presentation of the prizes by the chairman, Mr. W. H. Bell.





We invite readers to send us hints gained from their own experience for inclusion in this feature. Five shillings will be paid to the sender of any hint published, but we cannot undertake to return contributions not used.

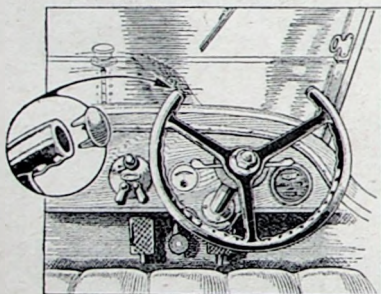
### A Filler Cap Hint.

When the petrol filler cap is placed in an exposed position at the rear of the car or in the centre of the scuttle, there is always the possibility that rain will find its way through the air-vent hole and will leak into the tank.

To prevent trouble arising from this cause a short length of copper tubing should be soldered into the vent hole and bent over to prevent the ingress of moisture. The air vent must not be restricted in any way, however.

### For Driving Comfort.

The seating position of some cars is such that the driver's straight-ahead vision is obscured by the upper portion of the rim of the steering wheel. Racing car drivers have overcome this difficulty by cutting away that portion of



To increase the range of driving vision a portion of the steering wheel rim may be cut away as shown.

the wheel with a hacksaw; ordinary owners can do the same with advantage. It is advisable, however, to do this only with metal rims. A more finished appearance can be given to the job if the hollow ends where the cuts are made are plugged with pieces of wood and suitably sized "Domes of Silence" furniture castors attached to the plugs. The wheel may need resetting on the steering column if it is in such a position that one of the spokes would come just where the cut-away should be made. The fact that the gap is no longer at the top when turning corners hardly matters, for the driver is not then looking straight ahead.

### Fitting a Driving Mirror.

Whilst a driving mirror is invaluable in assisting a driver to form some idea of the movements of following traffic, it must be remembered when

fitting the necessary that forward view must not be impeded.

When the mirror is clipped to the windscreen frame about half-way up the pillar, a serious blind-spot is formed so far as forward vision is concerned, and this may prevent the driver from seeing the movements of traffic converging on his car from the off side. The best place for the mirror is at the top of the windscreen support, well above eye-level, and therefore where it will not restrict vision in the most important plane.

### Side-lamp Mounting.

A certain amount of care is necessary in the method of fixing adopted when mounting side lamps on the front wings. Cracking of the metal is frequently caused primarily by vibration straining the metal clamped under the lamp fixings, and later by water leaking through the bolt holes, rusting the metal and causing the cracks to spread rapidly.

To ensure that the lamp fixings are water-tight a rubber washer, such as an

ordinary umbrella ring, should be clamped beneath the wing and the lamp fixing plates. The rubber will prevent the full force of road vibration from tending to crack the metal, and the harmful effects of rust will be avoided.

It is necessary to note, however, that the rubber washer may insulate the lamp from the chassis, electrically speaking, and a separate "earth return," in the form of a short length of rubber-covered flex soldered to the body of the lamp and the fixing bolt, may be found essential in the case of lamps using the single-wire system.

### Leaking Water Joints.

A certain amount of care is needed to make satisfactory joints in the water-cooling system of a car. When dismantling the system, if the piping has not been taken apart for a considerable time, it is necessary occasionally to cut the rubber jointing and fit new connections.

Even then a water-tight joint is not always easily obtained. The cause of the trouble is generally to be found in the fact that the packing strips under the ends of the clips are not replaced; the hose gets nipped when the screws are tightened, thus forming a passage for the water.

The most certain way of effecting a cure is to obtain a new length of hose pipe; nevertheless, quite a good job may sometimes be made by fitting new packing pieces beneath the clips and stopping the leaks with rubber solution, or with one of the special compounds sold for the purpose.



Queries of general interest will be answered under this heading whenever possible, but a stamped addressed envelope must be enclosed for reply by post. Telephonic inquiries cannot be answered.

A.C.H. (Louth).—The cam-operated plunger pump on your Salmson should not need to be primed. Make sure, of course, that there is sufficient oil in the sump, the correct quantity being indicated by means of the dip-stick.

A.H. (Stourbridge).—In no circumstances would we advise you to use crude castor oil in the engine of your A.B.C. car. The 10-gallon drum of oil which you have bought was probably never intended for use in a car engine.

D.P. (Stirling).—Provided that you have not disc wheels on your car an excellent substitute for non-skid chains is to be found in strong rope. This should be threaded between the spokes, in similar manner to the fixing of certain non-skid chains, and the ends firmly secured. The device should be used only in emergencies or when negotiating difficult going during freak hill-climbing expeditions, as the rope is quickly worn and breaks under the strain imposed on it.

J.M. (Brighton).—The teeth of the self-starter pinion are engaged with the flywheel ring only when the starter motor is in operation. At all other times the pinion is clear of the ring.

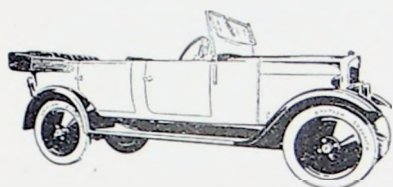
N.R. (Stockton Heath).—Better results will probably be obtained by having your existing cylinders rebored and aluminium pistons fitted than by buying a new block and using the existing cast-iron pistons.

E.F. (Yorkshire).—Sand is very effective in putting out a fire caused by leakage of petrol in the garage. It is difficult, if not impossible, to check the flames with water, owing to the fact that the burning petrol floats on the top of the water, which only thus serves to spread the flames. A chemical fire-extinguisher, of course, is the only efficient means of guarding against the danger of fire.

T.M. (Redhill).—You must apply for a passport to the Passport Office, 1, Queen Anne's Gate Buildings, Westminster. One passport is sufficient for a husband and wife travelling together, but every other member of the family over sixteen must have a separate passport. We should advise you to make use of the special facilities provided by the motor organizations if you intend to take your car abroad.



# EVERY LEA-FRANCIS MODEL IS PROVED!



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.

That "the proof of the pudding is in the eating" may be a hackneyed assertion, but it has an indisputable synonym in the matter of motor cars. No claims are ever made for the Lea-Francis unless they can be **PROVED**, and this by owner-drivers who require that proof in nothing less than everyday service.

The Lea-Francis is a luxury car, not only in its elegant lines and outstanding comfort, but also in its unseen but vital manufacturing processes. An expert at the wheel of a Lea-Francis wishes for nothing better, a novice wonders why all car owners are not as satisfied as he is. Lea-Francis attainment pleases *all* motorists!

## MODELS AND PRICES

10 h.p. from £210, 12 h.p. from £285, 12/40 h.p. Sports from £325, 12/50 h.p. "Brooklands" Sports £425; also Coupe and Saloon coachwork.

# LEA-FRANCIS

*Write for Illustrated Catalogue.*

**LEA & FRANCIS · LTD · COVENTRY**

LONDON SHOWROOMS: 113 GREAT PORTLAND STREET, W.1

Telephone: Museum 8720

Telegrams: "Rasorney, Wcsdo, London"

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



## INDEPENDENCE DAY

The day that you fit  
**LEVEROLL** seat mechanisms  
 To your car is  
**INDEPENDENCE DAY.**  
 On your Motoring Tour, you can  
 Sleep in your car o' nights!  
 Simply remove the seats,  
 Rails and all,  
 (Five seconds' work)  
 And a cosy sleeping room is made,  
**INDEPENDENCE FROM HOTELS!**  
 And money in your pocket.  
 You wish to picnic?  
 Very well, then!  
 Take out the seats, if fine;  
 Reverse them, and have your meal,  
 Vis-a-vis in the car, if wet.  
**INDEPENDENCE FROM WEATHER!**  
 And for all occasions,  
 They give you freedom of movement  
 And a roomy and easy passage  
 In or out of your light car.  
**INDEPENDENCE FROM THE  
 DISCOMFORTS ATTACHING TO  
 THE SMALL CAR.**

**Price per Set - £3 - 10 - 0**

Send for particulars:

**A. W. CHAPMAN LTD.,**

Patentees and Manufacturers,  
 Ranelagh Gardens, HURLINGHAM, S.W.6.  
 Telephone: Putney 2372/3.

## A REMINDER.

In the CAR DEPARTMENT of Messrs.  
**A. W. CHAPMAN** a large selection of  
 new and second-hand cars is available,  
 any of which can be **LEVEROLL** fitted.  
 Special Sets can be supplied for the  
**SINGER "Junior,"** the **CITROEN** Saloon  
 and other popular makes of cars with fixed  
 seats.

## AROUND THE TRADE.

A.C. (Acédès) Cars, Ltd., inform us that their works will be closed for the summer vacation from Friday night, July 29th, until Monday morning, August 8th. The service department will be closed only on Monday and Tuesday, August 1st and 2nd.

The following recent successes are credited to Englebert tyres:—Brooklands *Sporting Life* meeting, a first, a second, and two third places. Grand Prix de la Marne, first place. Swiss Rheinech Walzenhausen Hill Climb, two firsts and a second place.

The Alvis Car and Engineering Co., Ltd., of Coventry, have issued a very attractive folder, the cover of which is cut out to the shape of the Alvis radiator. On the first page is a reproduction of the power unit, viewed from immediately behind the radiator; this is followed by a short illustrated description of Alvis products.

The County Chemical Co., Ltd., Bradford Street, Birmingham, point out that in order to obtain the best result with their Chemico Cellulose Cleanser and Polishing Wax the wax should be applied after the whole surface has been worked with Cellulose Cleanser. Samples of both polishes are obtainable from the makers for 6d. in stamps.

A publication which should interest club secretaries is a catalogue of sports cups, trophies, shields and medals issued by S. Lesser and Sons, Ltd., 23-27, Houndsditch, London, E.1. It is full of splendid ideas for prizes, and some of the designs of cups are extremely handsome; the prices throughout the range offered are very moderate.

A booklet of interest to every Austin owner is entitled "A Visit to Longbridge Works." It deals with the early history of the company, and describes in a most entertaining manner its present activities. The booklet is well illustrated and will appeal alike to the skilled production engineer and to the non-technical Austin Seven owner.

We are informed that the directors of the Dunlop Rubber Co., Ltd., have entered into a provisional agreement with the Dunlop Rubber Co., of Australasia, providing for the financial association of the two companies, and also the formation of a separate New Zealand company for the better development of the trade of that Dominion.

Barimar, Ltd., 14-18, Lamb's Conduit Street, W.C.1, and branches, inform us that they have been operating for some time a special process for welding malleable iron castings, such as back-axle casings, differential housings, wheel hubs and so on. This interesting development should be of considerable value to motorists who have had the misfortune to damage parts of this kind.

A luncheon was held recently at Bingley Hall, Birmingham, when practically all the leading motor traders in Birmingham who exhibited at the Used Motor Show were present. Mr. William Glass, who occupied the chair, outlined the sequence of events in connection with the seven used motor shows which he has held since the original show at the Royal Agricultural Hall, London, in 1916.

We are informed by Mr. Arthur Stephens, the managing director of Silvertown Lubricants, Ltd., the makers of Speedolene oil, that it has been found necessary to open new London offices for the benefit of provincial and country clients and travellers where they can meet and keep appointments instead of journeying to the company's works at Silvertown. The new premises are at 11, Norway House, Cockspur Street, S.W. All details of the sales department will be dealt with as before from Mincio Wharf.

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



# AERIAL PAGEANT PROSECUTION.

## S.P.C.M. DEFENDS ANOTHER MOTORIST.

Still another motorist has been successfully defended by the Society for the Prevention of Cruelty to Motors.

At the Court of Roads last Wednesday a case was heard before Mr. Justice Sump, in which an owner-driver was charged with attempted theft of three char-a-bancs, two omnibuses, six lorries and fourteen private cars, the alleged thefts having taken place collectively and simultaneously.



—AND DROVE OFF

When the charge was read His Lordship expressed surprise and obvious incredulity that one man could possibly steal all these vehicles at one time, and, moreover, unaided.

In substantiation of the charge, Police Sergeant Peeler explained that all these vehicles, together with the prisoner's car which was at their head, had been chained together for safety whilst being "parked" during the performance of the Pageant. Ultimately the prisoner appeared, seated himself in his driving seat, and drove off with the whole string of vehicles.

Cross-questioned, the prisoner denied having had any knowledge that other cars were attached to his own. He certainly experienced a little difficulty in gathering speed, he said, which was unusual since he always used Adcol New Process Oil, but once seated he was unaware of anything unusual until the Police stopped him some four miles further on.

Counsel for the prosecution replied that such a state of blissful ignorance was impossible. How could a

little card-camp with a whole convoy except by a sustained effort, he said.



AMIDST APPLAUSE.

At this juncture the learned Judge stopped the case. The prosecuting Counsel, he said, has entirely overlooked the fact that the said little car was running on Adcol, and, he, the judge, believed the prisoner, who would receive his freedom immediately, and would leave the Court without a stain on his character.

Prisoner promptly stood down amidst applause, in which the whole Court joined.

### 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.

This  
Model 8c

## DELCO-REMY HORN

gives a note (treble A) that can be heard high above the drone of heavy city traffic or far down winding country lanes.

Its price is only 16/6 (postage 9d.) and its finish is so perfect that it will grace the most expensive car or cycle.

Ask your dealer for further particulars,  
or write us direct, specifying 6 or 12 volt.

DELCO-REMY & HYATT, LTD., 111, GROSVENOR ROAD, LONDON, S.W.1.

### OTHER MODELS.

ELECTRIC:

Model 18, 40/-, postage 1/-

Model 25, 73/6, postage 1/-

State 6 or 12 volts.

Model 3V (hand operated)

18/9, postage 9d.

(Special Prices Irish Free State.)

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





**NEW CARS.** We can allow good prices on second-hand G.N.'s in part exchange for **NEW CARS OF ANY MAKE** (deferred payments if required).  
 1927 11-9 4-cyl. Sports £250  
 1927 8-7 2-cyl. Sports £175  
 1927 8-7 2-cyl. Standard £160

## SECOND-HAND CARS.

1919 to 1926 Models (Twin and Four Cylinder) from £10 to £100  
 G.N.'s taken in exchange for any cars that we have for disposal (deferred terms arranged).  
 Write for Lists.

## SPARES and REPAIRS.

SPARES stocked for all models of G.N. Cars. All parts made from the original jigs and drawings. Our Repair and Service Dents are entirely at the disposal of all G.N. owners. Technical advice and estimates free.  
**G.N. LIMITED, EAST HILL, WANDSWORTH, S.W. 18.** 'Phone (2 lines) Battersea 0033 and 0034.



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 & CO. LTD. Cross Chequer Coventry

Manchester Depot, 268, Stockport Road.

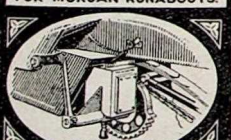
## COVENTRY VICTOR

Vibrationless Flat Twin Engines and Gearbox Units.

Modern Cyclecar & Light Car Components, also  
 The 1927 Coventry Victor Runabout.  
 The Coventry Victor Motor Co., Ltd., Coventry.  
 'Phone: 952 Coventry. Telegrams: "Precision."  
 Northern Distributors:—The Deansgate Motor Co.,  
 Deansgate House, Deansgate, Manchester.

"HOW TO DRIVE A CAR."  
 By the Editor of "The Motor."  
 2s. 6d. net. 2s. 9d. post free.

THE IDEAL STARTER FOR LADY DRIVERS  
**"KUSHI" STARTER**  
 FOR MORGAN RUNABOUTS.



SEND FOR ILLUSTRATED LEAFLET  
**E. MOORE, ENGINEER**  
 419, STONEY STANTON RD.,  
 COVENTRY

EASILY FITTED BY THE AMATEUR MECHANIC

The "KUSHI" automatically lifts and drops the Exhaust Valves at exactly the right moment thus making starting absolutely Kushi.

Sat'f'ion G'teed.

ORDER TO-DAY

Wonderful three-colour book of 31 motor houses and all kinds of Portable Buildings sent free.

Fireproof Garages from £14. 10. 0.

## MOTOR HOUSE

A BARGAIN. Sectionally built 1-in. sawn weather boards. Roof boarded and felt. For 2 or 4-seater cars.  
 Leaves Ridge Price  
 14ft. x 8ft. 6in. 8ft. £11: 10  
 14ft. x 8ft. 6in. 8ft. £12: 10  
 14ft. x 8ft. 7ft. 6in. £12: 10  
 14ft. x 8ft. 7ft. 6in. £12: 10  
 14ft. x 8ft. 6in. 8ft. £12: 0  
**F. & H. SUTCLIFFE, Ltd.** 36, Wood Top, Horden, N.E., Yorks.  
 Plans 58. London Showrooms: 40-42, Oxford St., London, W.1.

KAYE'S PATENT SEAMLESS  
 STEEL "FORCE FEED"  
 OILERS. Various Sizes.

Write for List.



Pattern No. 82, Small Motor Oilfeeders. Complete with Spring Clip.

**JOSEPH KAYE & SONS, LTD.,**  
 Dept. No. 290, Lock Works, LEEDS.  
 93, High Holborn, W.C. 1.

# 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 3921.

## SPARES

for  
**SINGER 10 H.P.**

We specialise in the Back Axle Gearbox TYPE

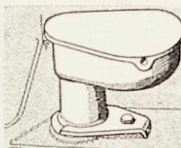
**C.V. & M.S., 41a, London Avenue,**  
 N.E. Portsmouth. Phone: 6928

**NOW LADIES**  
 be sure to send for our unique  
**INITIAL CUSHIONS**

18" square, leather cloth, damask, velvet, or in material of your choice, with white piped edges, and your initials in GOLD.  
 Cost 8/3 post free. Unapproached for value.  
 Manufacturers  
**E. C., 15, GEORGE ST., LONDON, N.W.1**

## AUSTIN "7"

**OWNERS**  
**Oil Filler**



Permanently fitted by tightening one bolt.  
 Made in Aluminium  
 Uses existing Strainer.  
 Retail Price 6/-

Please state if car is fitted with M.L. Magnetos

Sole Manufacturers  
**Pressed Products Mfg. Co.,**  
 44, Green Lanes, Stanley Road,  
 South Harrow, Middx.

## MAGNETOS

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



**The Motor** The National Motor Journal

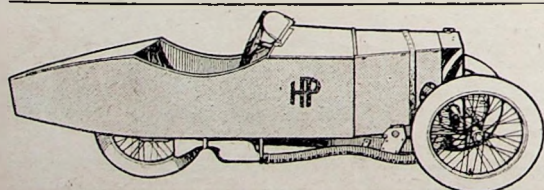
Every phase of Motoring. Practical articles well illustrated. All the news of the automobile world.

**TUESDAYS** 4s.  
 Offices: 5-15, Rosebery Avenue, E.C.1.

## "Kar-ka-leen"



**The Wonder Car Cleaner!!**  
 Cleans 1 Quart Kar-ka-leen  
 Polishes 1 Strong Hand Sprayer  
 Preserves 1 Cleaning Cloth  
 From your Local Dealer, or direct from  
**W. KNOWLES (Bebington) Ltd.,**  
 Bebington, Cheshire.



**STANDARD SPORTS H.P.**  
**THREE-WHEELER** obtains 18 **WORLD'S RECORDS** at Brooklands, June 1st (subject to confirmation). Models £65 to £100.

**HILTON-PACEY MOTORS, WOKING.**  
 'PHONE: 1192 WOKING

"THE MOTOR REPAIR MANUAL" For the Owner Driver and Amateur Mechanic 2s. 6d. net. 2s. 9d. post free.



## In the Front Rank 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 7s.
9/20 H.P. 4-Seater Saloon ..	£322 7s.
<i>Dunlop Tyres Standard.</i>	

The front wheel brakes are of the internal enclosed type operated by means of levers and cams located above the axle bed. The entire mechanism forms a unit with the front axle.

**MODELS ARE AVAILABLE FOR  
IMMEDIATE DELIVERY.**

Send for fully illustrated  
and name  
nearest Humber agent.

## For any need or any road

Wherever the need is felt for a thoroughly serviceable all-purpose car, there you will surely find the 9/20 H.P. Humber. You see it often because no other car of its class combines so many popular features in automotive design with so moderate a price.

*Distinctive features of the 9/20 H.P. model are:*

**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.**

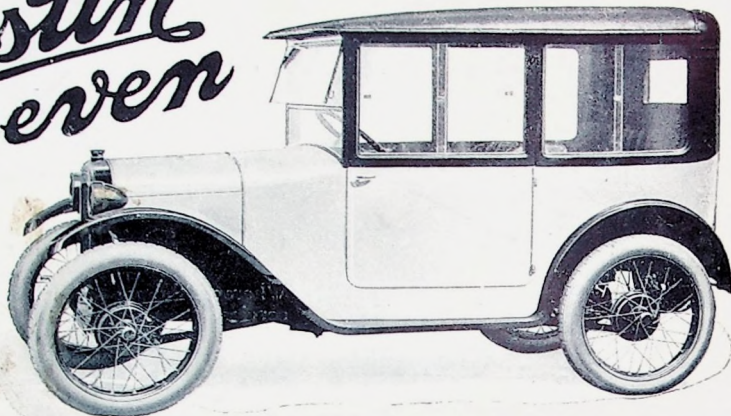
*LONDON:*

*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,  
Kilburn, N.W.6.*

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

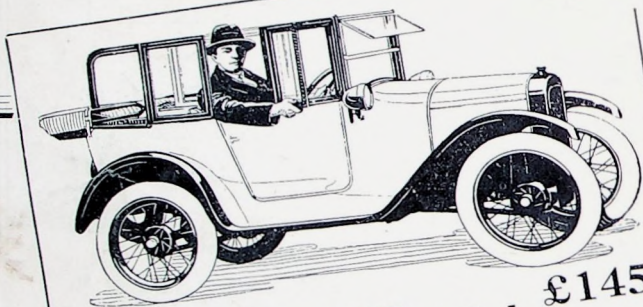


# The Austin Seven



## SALOON

### £165



### STANDARD TOURER - - - £145

## Travel in comfort—and cheaply

If you wish to enjoy really comfortable motoring in its least expensive form, become an owner of an Austin Seven. The initial cost is very small—it may, moreover, be paid in instalments if desired—and your running costs, even when you have a couple of adult passengers, will work out at only about a penny a mile. It can be garaged in very small space and, while capable of a fine turn of speed and equal to any hill-climbing, it is exceptionally easy to control in traffic. Ask the local agent to arrange a trial. The Saloon model is ideal for town use.

THE AUSTIN MOTOR CO., LTD., LONGBRIDGE, BIRMINGHAM.

LONDON SHOWROOMS, SERVICE DEPOT & HIRE DEPT., 479-483, OXFORD ST., W.1. (Near Marble Arch.)