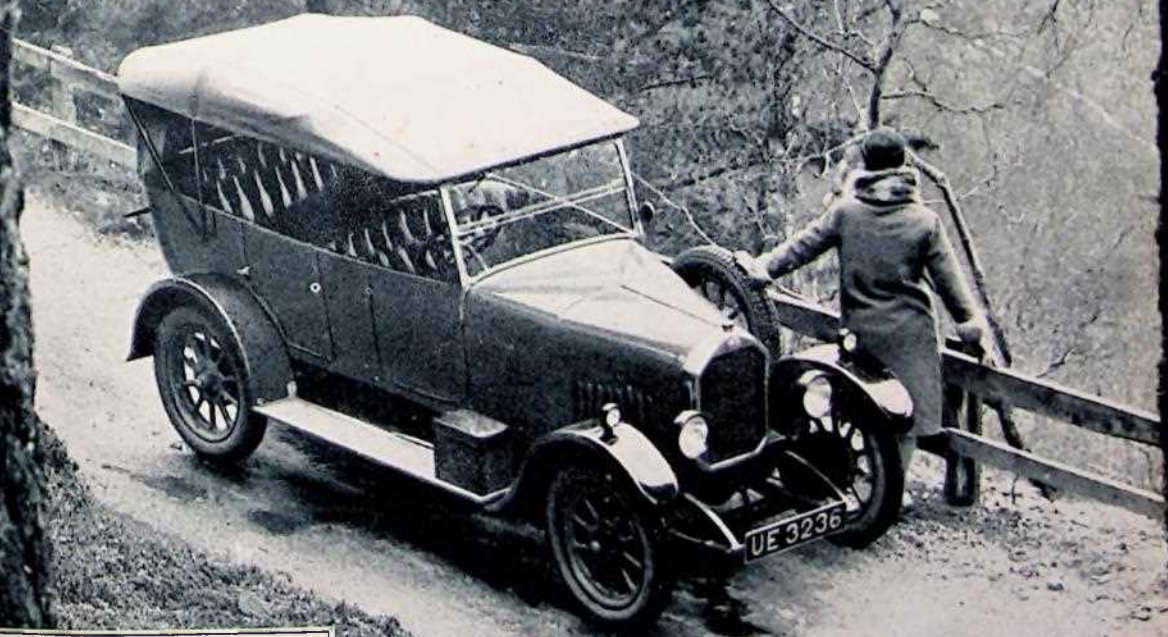


# The Light Car and Cyclecar

Founded 1912  
The only Small Car Journal

3<sup>D</sup>

Vol. XXX No. 762  
Friday July 15 1927  
*Registered at the G.P.O.  
as a Newspaper*



#### ABOVE THE DEE.

Scenery of rugged grandeur is generally associated with Scotland; here, however, is a glimpse of the Dee in Aberdeenshire which shows the country in more peaceful mood. The photograph was taken during a long tour by light car in the "great spaces of Scotland," and the full story is given in this issue.





# *The Joys of Summer Touring*

are considerably enhanced  
by the sweet contented  
running of your car.

The wonderful efficiency of the

## LODGE

### PLUG

assists your engine to develop  
its best power under all  
running conditions.

The Lodge C3  
sold everywhere

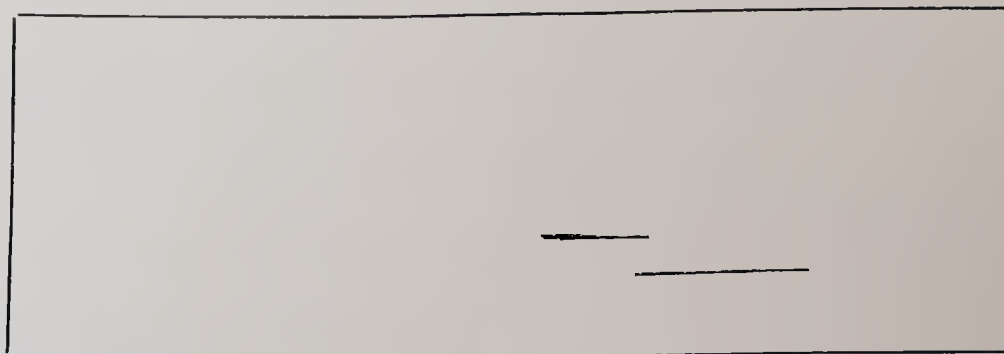
5/-

in sealed red  
metal box.



LODGE PLUGS LTD.,  
RUGBY.

# CITROËN



# records made -- Brooklands on **STERNOL WW MOTOR OIL**

**S**TERNOL WW is right in this season's record breaking movement. New standards are being set up for non-stop aerial flights; novel speed achievements are the order of the day at Brooklands.

At that great centre of racing Mr. J. J. Hall—our official rider—has just registered 18 more speed records, all obtained on Sternol WW. And remember that

they were accomplished on identically the same quality of this super oil as you obtain from any garage when asking for Sternol WW.

If you have any difficulty in obtaining supplies, write to Sterns Ltd, the entirely British and sole producers of Sternol WW., the motor lubricant subjected to a special voltolising process that ensures unequalled liveliness to the engine.

# 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.



## The (W)Ringer."



What Mr. Edgar Wallace thinks about the Jowett has not, so far as we are aware, been placed on record.

We are certain, however, that an author with such a consistently good output can have nothing but admiration for a car with such a good output as the Jowett.

A few of its good points:—

It makes bad roads—good roads.

Any road with any load.

First in 1906, still at the top.

Provides the cheapest form of motoring.

The cheapest to buy, the cheapest to run.

"The little engine with the big pull."

May we send you our unique Catalogue and particulars of our private deferred purchase scheme?

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

Dunlop Balloons and Stewart Speedometers standard.

## JOWETT CARS LTD., IDLE, BRADFORD

## Special Features of this week's issue

# The Motor

**Tues., July 12th.**

### ★ NEXT WEEK!

CAUSES AND CURES FOR  
SQUEAKS AND RATTLES.

A VERY PRACTICAL TOUR-  
ING CAR.

A CHASSIS ARRANGED FOR  
ACCESSIBILITY.

How the Mounting of the Main  
Components could be altered  
to make them all Easily  
Get-at-able.

BROOKLANDS MEETING.

All the news and news Pictures.

**SHOCK ABSORBERS—WHAT THEY DO.**  
The Action of Suspension Systems Explained.

**"MISSING."**

The Causes of Much Uneven Engine Running and How to Put  
Matters Right.

**HOW A POLAR - INDUCTOR MAGNETO  
WORKS.**

Machines which give Four Sparks per Revolution Described in  
Simple Language.

**TYRE WHICH CANNOT LEAVE THE RIM.**  
Convincing Demonstration of a Novel Semi-well-base Design.

**ROAD TESTS SHOWING PRINCIPAL  
CHARACTERISTICS.**

The 36.4 h.p. Lincoln Limousine. The 27-55 h.p. Hupmobile  
Saloon.

**GETTING THE BEST OUT OF A 9-20 H.P.  
ROVER.**

Hints on Care and Maintenance.

**TRAILING.**

An Inexpensive Holiday.

**THE CAR THAT A WOMAN SHOULD  
CHOOSE.**

Vital Importance of One that Fits the Driver and is Easy to  
Handle. By The Hon. Mrs. Victor Bruce.

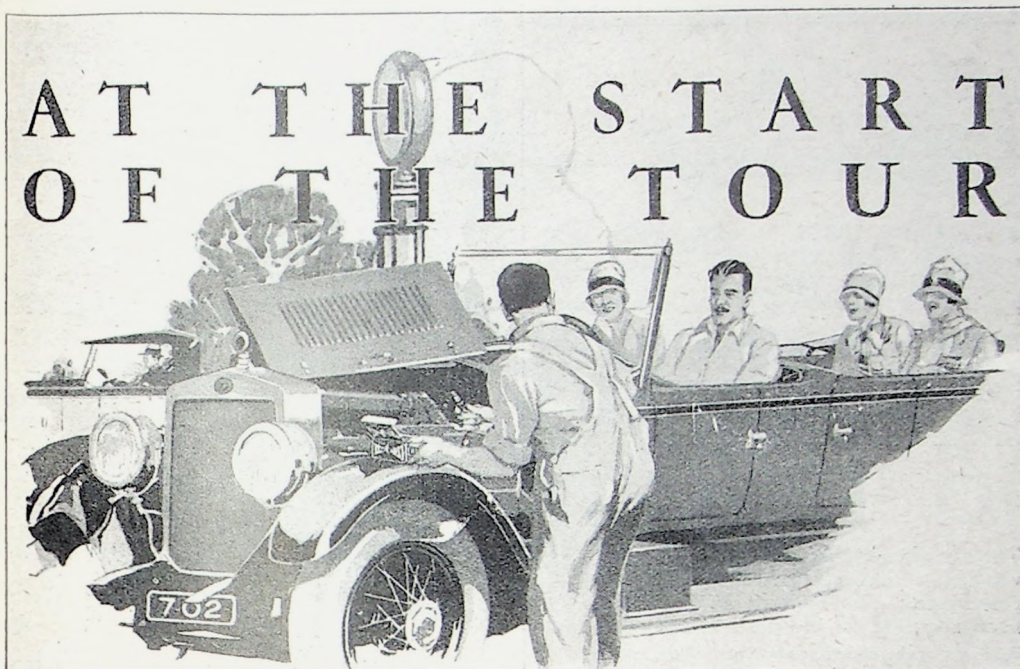
**OUR PARLIAMENTARY "FRIENDS"!**

Seven Members Vote for 25 per cent. Reduction in Motor  
Taxation!

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

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





Your enjoyment on tour this summer will be assured if you install a set of dependable Champion Sparking Plugs before starting. Your car will perform better under all driving conditions, because every dependable Champion Sparking Plug is of two-piece gas-tight construction, with Sillimanite Insulators and special analysis Electrodes. Two out of three motorists the world over buy CHAMPION regularly, because it is the "Better Spark Plug."

#### RECENT RACE VICTORIES.

Grand Prix of France: A.C.F. (Delage).  
 Grand Prix of America (Duesenberg).  
 Grand Prix of Endurance, Bol d'Or (B.N.C.).  
 Grand Prix of Morocco (Georges Irat).  
 Targa Florio (Bugatti).  
 Essex Six Hours Race (Alvis).  
 171 m.p.h. by 1500 c.c. Miller, U.S.A.  
 Grand Prix of Endurance, Le Mans, 1927.  
 Rudge Whitworth 3rd Cup (Salmson).  
 St. Didier Cup (Salmson).  
 Polish International Race (Austro-Daimler).

# CHAMPION

## *Sparking Plugs*

83, Pall Mall, London, S.W.1



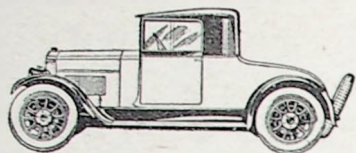
No. 9.—Metric Long

Price—4/6



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.





# TAYLORS OF KENSINGTON

offer you 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.

You really should write for a copy of our new 1927 41-page Buyers' 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.

### ALL MAKES SUPPLIED.

The following give excellent and very economical service.

**ROVER** from £225 to £760

**JOWETT** from £139 to £185

**AUSTIN** from £145 to £775

**SINGER** from £148-10 to £350

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

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

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

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

ROVER, 1920, 8 h.p., 2-Seater .. .. .	£25
AUSTIN, 1925, 7 h.p., 2/3-Seater .. .. .	£92
CITROEN, 1924, 11 h.p., Coupe .. .. .	£87 10
AERO MORGAN, 1927, 10 h.p., J.A.P. .. .. .	£115
F.I.A.T., 1920/1, 2-Seater .. .. .	£86
ROVER, 1926, 9 h.p., 4-Seater De Luxe .. .. .	£147 10

Full list gladly sent upon application.

### HOURS OF BUSINESS —

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

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

49, 50, 52 & 53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.7.  
Phone: Kensington 8558/9 and 6640. Grams: "Dynametro, Southkenns."

## OF SPECIAL INTEREST TO AUSTIN 7 OWNERS

SCRIVENER'S PATENT—A Magic Valve Fitting Tool.  
For AUSTIN 7 and ALL CAR ENGINES.  
Worth a GUINEA each.

The only Tool which fits Valve  
Spring Coilers instantly.  
SAVES TIME, MONEY  
AND TEMPER



safe from pinching.  
AUSTIN 7, 3/9 each. For  
ALL OTHER CARS 4/6. Post 3d. each.

### BARGAIN LIST.

	USUAL PRICE.	SALE PRICE.
Fine Full-tone Trumpet Horn .. .. .	12/6	10/-
Unique Valve Lifters - small 4/9, large .. .. .	5/6	3/9, 4/6
Screen Wipers, cleans both sides .. .. .	7/6	6/-
Step Mats, with Vaience and Scraper, pr. .. .. .	15/6	10/-
Austin 7 Petrol Can and Holder, complete .. .. .	11/-	9/-
Finest Quality 8-DAY CLOCK for all .. .. .		
Cars, warranted .. .. .	42/-	32/-
Austin 7 Dashboard Clocks .. .. .	15/6	10/6
Curved Side Mirror, plated and polished .. .. .	10/6	8/9
Austin 7 Petrol Gauge, instantly fitted .. .. .	10/6	8/9
Nickel-plated highly polished for Dash- .. .. .		
board, complete .. .. .	12/6	10/6

POSTAGE EXTRA.

Order at once while Sale Prices last.

**SCRIVENER'S, Fleet St., SWINDON.**

## PRATTEN'S "Big Three" Garages

Each of the Garages illustrated is manufactured in our own workshops of the best quality materials and supplied in sections which can be easily erected without skilled labour. Carriage paid. You are invited to inspect them at our works. 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' 0" 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



Full specifications contained in Folder No. 37. Other designs described in this Catalogue No. 35. Post free.



THE "DUPLE" JOINT GARAGE.  
14' 0" x 8' 0" x 6' 0" .. £15 5 0  
16' 0" x 8' 0" x 6' 0" .. £16 10 0

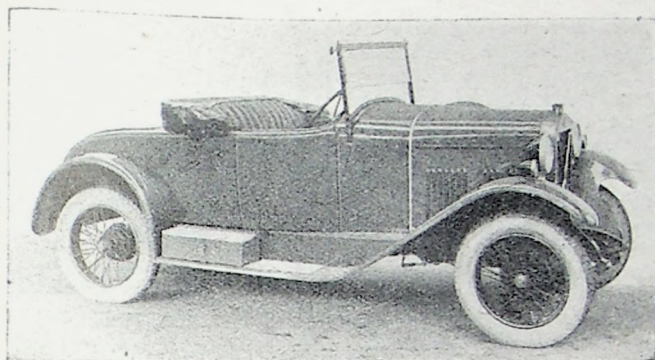


Illustration of 'Duple' Joint, which shows how boarding is weatherproof.

**F. PRATTEN & CO., LTD.,**  
12, Midsomer Norton, Nr. Bath.



# The Question of Money



need not worry you at all in these days of Deferred Payment and Part Exchanges. Every possible facility is offered you and arrangements made to suit YOUR purse, not OUR convenience. The choice of car therefore only remains. In that too there is really very little difficulty once you have inspected what we can offer. For instance, the above illustration is of our 10/20 h.p. two-seater, the initial payment for which is merely

£49 : 15 : 0

SOLE CONCESSIONNAIRES FOR UNITED KINGDOM AND BRITISH DOMINIONS:

S.M.S. LTD., CHURCH WHARF, CHISWICK MALL, W.4.

\*Phone—CHISWICK 3531.

LONDON DISTRIBUTORS:

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

# SALMSON

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



# Cars are Catching Fire every day...

*Be ready to Save Yours!*



for  
LIGHT CARS  
get the  
New JUNIOR  
Model.

WHOSE car will be burnt out to-day? Will it be yours? It won't if you carry a Pyrene Fire Extinguisher, because then you can tackle a fire at once and put it out before the damage is done.

The Pyrene Fire Extinguisher for many years past has been saving thousands of cars from destruction and their owners and friends from injury. Now that there is a new JUNIOR size for light cars greatly increased numbers will be saved. Be ready for fire on your car by carrying a Pyrene Fire Extinguisher. Then you can put it out and drive on as though nothing had happened. Fit one to-day.



**JUNIOR MODEL FOR LIGHT CARS.** Handsome nickel-plated finish only. Filled and complete with bracket **35/-**  
**STANDARD MODEL FOR BIG CARS.** Filled and complete. Polished Brass **55/-**  
Nickel or Black plated **60/-**

GET ONE FROM YOUR GARAGE.

Send for Folder "L.J."

**THE PYRENE COMPANY Ltd.**  
9, Grosvenor Gardens, London, S.W.1.

Telephone: Victoria 8592.  
Telegrams: "Pyrene" Ltd., London.



# BETTER

your car  
with

**Cupet**  
PERCENT PISTON RINGS

More speed—more miles  
per gallon on oil and  
petrol—no sooty plugs.

**FREE**

Send for FREE and  
POST-FREE illustrated brochure to  
Dept. L.A.

The Clews Petersen Piston Ring  
& Engineering Co., Ltd., West  
Heath Works, Mill Lane, West  
Hampstead, London, N.W.6.  
Telephone: Hampstead 8691.

That's  
the point

Oakeys'  
helps to  
motorists



**"WELLINGTON"**  
LIQUID METAL POLISH

gives a supreme, lasting  
burnish to ALL METALS  
and GLASS—motor mirrors,  
lamps, windows, screens, etc.

In tins,  
3d., 4½d., 7½d., and 1/3.  
Also in ½, 1, and 1 gallon cans.

**"WELLINGTON"**  
VALVE GRINDING PASTE

FINE or COARSE.

A perfect paste  
made of the finest  
materials. Absolutely  
non-greasy, it pos-  
sesses great cutting  
properties.

In Tins and Tubes.



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



# LAST DAYS! LAST DAYS! GAMAGES GREATEST SUMMER SALE

Order from the Widest Range of GENUINE Bargains ever known in Sales History

## Special

### "SPOT-LIGHT"

Spot-Light with self-switch gives a very powerful beam of light. Complete 12 volt bulb. Post 6d.  
**SALE PRICE**

Order by POST or TELEPHONE (2700)

### AUSTIN 7 TOOL BOX

Made to fit the offside running-board. Will accommodate Jack, Pump, and all Tool Kit .. **SALE PRICE 16/6**

Do away with the chance of getting smothered in oil. Well made and strong at a price within reach of all. To fit 5 gallon drums.  
**OIL DRUM PUMPS**

Special SALE PRICE

**6/9**

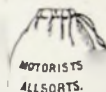
Carriage Extra.

## SENSATIONAL OFFER.



### SCOPE MIRRORS.

Gamages "Scope" mirrors for the car, one of the most popular models of the season, give very large range of vision owing to the shape of reflector. **SALE PRICE, each 6/9** Post 6d.



MOTORISTS ALL SORTS.

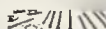
### The "HOLBORN" Windscreen Wiper

A very convenient form of hand-operated Wiper. Cleans both sides of screen at once and is adaptable for either a double or single type of windscreen. Post 4d. **SALE PRICE 2/11**



Cleaning Cloth.

Splendid quality Cleaning Cloth. Nice and soft, and made up into 50 yard rolls. Far superior to Waste or Mutton Cloth. **SALE PRICE**, per roll Half Rolls **2/6**. Post extra.



### RISBY'S USEFUL BAG OF ALL SORTS.

Contains Bolts, Nuts, Split Pins, Insulating Tape, Copper Wire, etc., complete with bags. Post 6d. **SALE PRICE 3/6**

### WONDERFUL OFFER. N.P. ASH TRAYS.

Fitted with wind-proof detachable top, size 31 x 12. Post 3d. **SALE PRICE 3/9** This is an exceptional Bargain.

### FLOWER VASES.

For fitting in dashboard of Car, N.P. or Oxidized metal. Makes a luxurious addition to the car. **SALE PRICE 5/-** Post 6d.

### SPARK PLUG TESTERS

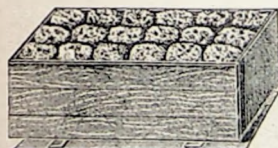
Combined Pencil and Spark Plug Tester. This handy little instrument at once denotes any faulty firing of your plugs or leak in your electrical circuit. Post 3d. **SALE PRICE 2/-**

### TUBULAR SPANNERS

Wonderful Sale Offer. Of best steel Tubular Box Spanners in sets of 3 with Tommy Bar, to fit nuts size 4, 5/16, 3/4, 7/16, 1, 1 1/2 in.

**SALE PRICE per Set 2/7**

Fine quality, soft yet long wearing. Size about 21 in. by 22 in. **SALE PRICE**, each Postage extra. **3 for 11/6**



### SPONGES

Fine quality Honeycomb Sponges, 3/1 and 2/1. Extra large size, 7/-.

Special line of Strong Sponges for car washing.

**1/3** 3 for 3/6.

Extra large Honeycomb Sponges. Usual Price 8/6. **SALE PRICE 6/3** Post extra.

Example of Gamage Value.

### Special Offer of Lightweight GOGGLES.

Fitted with unsplitable glass, collapsible Frame, CHENILLE EDGE and wide elastic, are very comfortable and give a wide range of vision, and possess qualities that equal goggles selling at 25/- Post 4d. **SALE PRICE 7/6**



### RUBBER STEP MATS.

Step Mat in Aluminium frame, with straight bar or Rubber Mat. Size 12 in. x 8 in. Every car should be fitted with one now before prices return to normal. Post 6d. **SALE PRICE 4/6** Bristle Pattern Mat .. .. . 5/9

### CAR COVERS.

Made in Cotton Tick. Strong and Serviceable.

Sizes.	SALE PRICE.	Sizes.	SALE PRICE.
10 x 6 ft. ..	9/6	21 x 12 ft. ..	27/-
15 x 12 ft. ..	20/-	21 x 15 ft. ..	35/-
18 x 15 ft. ..	29/-		

### SENSATIONAL OFFER!

### BLACK WATERPROOF LUGGAGE COVERS.

Reinforced corners and strong eyelets for fastening. **SALE PRICE.** Sizes. **SALE PRICE.** 9 ft. x 5 ft. .. 11/6 8 ft. x 5 ft. .. 18/6 7 ft. x 5 ft. .. 13/6 Carriage 1/3 extra.

### METAL TOOL BOXES

for running-board. Made from heavy 4-gauge steel. Mounted lid, greatly adding to appearance. As illustrated, but fitted with 2 hinged catches and lock and key. Beautifully finished in black at quality black enamel, with lock and catches nickel-plated. Size 12 1/2 x 7 x 7 in. Car. 10. **SALE PRICE 12/6**

### LUGGAGE CARRIERS.

Very convenient for light luggage. The grid is easily and quickly attached to the running-board and is telescopic, so that it can be adapted to any length required. **SALE PRICE 15/6**

**A. W. GAMAGE, LTD., HOLBORN, LONDON, E.C.1**

City Branch: 107, Cheapside, London, E.C.2

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



# Professor Antibounce

## THE WISE MAN OF THE ROAD

### SOLVES THE PROBLEM

Mr. Motorist:—Yes, Professor, my car bumps and sways very badly on a rough road, even when I am going very slowly, also the steering wobbles badly, particularly when cornering, it makes driving very uncomfortable, unless the roads are perfect.

Professor Antibounce:—Well, Mr. Motorist, it is very easy to see that the spring of your car is much too light and will not damp the shocks caused by the unevenness of the road, this also is the main cause of your steering trouble. The remedy is quite simple, fit a set of STOTT ANTIBOUNCE CLIPS on to the springs and you will find that, even on the roughest roads, shocks will be practically eliminated and steering will be easy.

Here is the experience of a motor owner who has already fitted STOTT ANTIBOUNCE CLIPS:—

"Please find enclosed cheque in payment for STOTT ANTIBOUNCE CLIPS. I find these very efficient, especially on the steering and also for the prevention of skidding."

Prices from 11/6 per pair.

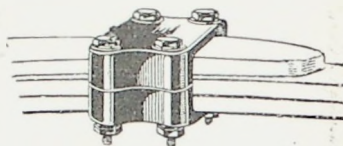
The makers will bring their Suspension and they will give you all the advice your own particular car.

**RICHARD BERRY & SON**

(Department "A").

Mafeking Road, SMETHWICK.

Phone .. .. Smethwick 631.  
Grams .. .. Springs, Smethwick.



## POINTS TO KNOW ABOUT

### -clix

The Scientific Sparking Plug Attachment.

(World-wide Patents and Provincial Patents.)

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

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

3 "Auto-Clix" acts as a thief-proof device. By simply withdrawing the scientific resilient plug the engine is rendered unstartable. Thieves do not wait to ascertain why.

An illustrated descriptive folder awaits your request. Send a postcard now!

**1/-** 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

**LECTRO LINX LIMITED.**

MOTOR DEPT.

Manufacturers of Clix Radio Filaments.

254, Vauxhall Bridge Road, LONDON, S.W.1.

Telegrams: "Trolinx, Chertoo."  
Telephone: Victoria 8120.

## A B. & P. Motor House will save Garage Expense

Model No. B202  
(as illustrated)  
£50.



CONSTRUCTED of first-class materials and excellently designed, these Motor Houses are a sound proposition at any time. Start saving your garage bills now. These houses are tenants' fixtures and may be easily erected or dismantled by any handy man. High grade finish in every detail.

### Prices of other Standard Designs

No. B217 Urban Motor House

Size 14' x 8' x 6' 6" high to eaves, for two-seater **£15 : 5**

Size 16' x 8' x 6' 6" high to eaves, for four-seater **£17 : 10**

No. B216 MOTOR HOUSE

Size 14' x 8' x 6' 6" high to eaves, for two-seater **£16 : 0**

Size 16' x 8' x 6' 6" high to eaves for four-seater **£18 : 10**

Carriage paid to stations in England and Wales

Ask for Catalogue No. 629

**Boulton & Paul Ltd**

Telegrams: **BOLTON NORWICH** Telephone: **NORWICH 851 (5 lines)**

LONDON OFFICE 135-137 QUEEN VICTORIA ST EC  
Telegrams: Boulbouge Cent London Telephone 4642 Cent

Visit our Showrooms at Norwich or London, where examples of B. & P. Standard Motor Houses can be seen.

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

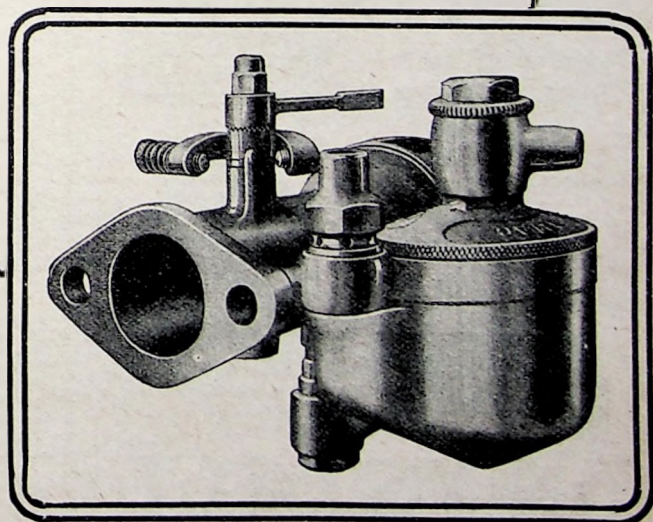


## ONE CARBURETTER EVERY 52 SECONDS OF WORKING TIME

This is the remarkable output of the Amac Factory which from its British Works alone has produced nearly 100,000 carburetters during the first six months of 1927.

**THE LARGEST CARBURETTER  
FACTORY IN THE BRITISH  
ISLES.**

**AMAC**  
THE ALL-BRITISH  
CARBURETTER.



**AMAC Ltd.** HOLFORD WORKS, PERRY BARR, BIRMINGHAM.

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



"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.



66 **Player's**  
**Country**  
**Life**  
**TOBACCO**

COUNTRY LIFE  
(Mild and Medium)

1/0  $\frac{1}{2}$  per  
oz.

COUNTRY LIFE  
(White Label)

11 <sup>D</sup> per  
oz.

C.L. 175

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

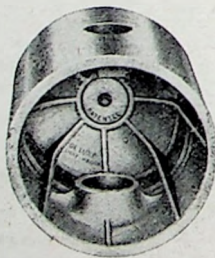
*The very best  
for*  
**Racing & Sporting  
Cars**

**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

**'Stadium'**

**Easyreach  
GEAR LEVER**

Regn. Pend.

Model 999 for the  
"AUSTIN SEVEN."

Neatly and strongly made of  
solid aluminium and exceedingly  
well polished and finished.  
Length of Lever, 8 in.

Obtainable  
wherever  
accessories

**7/6**

Unique and vitally essential to safe and easy gear changing, the Stadium "Easyreach" Gear Lever Extension obviates bending awkwardly forward and tumbling for the "elusive knob." It is instantly fitted by a clip and two bolts (no drilling or tapping required) and may be adjusted exactly to suit the driver's height and reach.

**Stadium "Pack Quick" LUGGAGE  
GRID.**

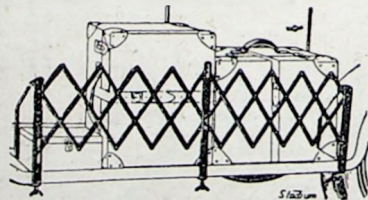
Model S20

Size closed,  
19" x 8" x 3"

**17/6**

Week-end  
Model 922.

**6/6**



There is really no need to encumber your car seats with luggage. Attach the "Pack-Quick" grid to the footboard by means of three strong wing bolts and there it will remain rattil-proof and firm until you as quickly remove it and pack it away. Can be extended from 8 in. to 54 in. (Model S20), and from 10 in. to 60 in. (Model 922). Finished durable black enamel hard stoved.

**ETIENNE & CIE.**

"Stadium House," 61-63, Great Eastern Street, London, 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.



## Trifles make perfection Perfection is no trifle

perfection in service . . . it's just paying attention to the trifles that are of prime importance to the man who's just beginning.

Now most people when they first think about buying a car like to look around and get an idea of the kind of car they prefer before they begin to ask questions. In our show-rooms you can look around as much as you please and nobody will bother you.

Once a general idea is obtained you want to know about price, running costs and petrol consumption. Our engineers are useful then. They will tell you all about the car you fancy and if you mention just how much you want to pay in the way of upkeep costs they'll advise you which car to buy.

If you do buy it and buy it from us we'll guarantee you satisfaction, and our "after-sales" service will prove your real friend. These little points may seem trifling individually, but welded together they make up a service that is far from trifling. Try it and see. Come to-day.

**FREE!** May we send you a copy of our latest booklet, "The Diary of a Car Tester"? It is full of helpful information.



### SINGER.

4-Seater Senior .. £220  
£44 down.

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

### ROVER.

4-Seater Tourer .. £225  
£35 down.

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

### WOLSELEY.

4-Seater Touring .. £215  
£43 down.

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

Q. When we commenced business in 1889, the area of our showroom was 270 square feet — to-day it exceeds 30,000 square feet, and we are still extending. We realised how vital Service was, and thus we built our reputation.

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

### SWIFT.

4-Seater Touring ..  
£42 down.

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

### JOWETT.

2-Seater ..  
£30 down.

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

### AUSTIN

7 h.p. Chummy  
£29 down.

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

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

Telegrams: "Admittedly, London."

# Ready-to-Erect Garages

## in Wood or



### Guineas

GLIDING OUT-OF-WAY DOORS

FREE INSURANCE AGAINST FIRE

FREE PLANS FOR COUNCIL APPROVAL

DEFERRED TERMS CAN BE ARRANGED

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



New Army Huts

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

**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 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.

**MOSAIRE**  
SPIRAL  
**AIR VALVE**  
& EASY STARTER

**Automatic Type with**

**Rubber Diaphragms, Price 40/- complete**

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

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

**DE LUXE MODEL.**

Air-cooled £110  
Water-cooled £120

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.**

**HOMAC'S**  
MOTOR AGENTS

**AERO MODEL.**

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

**TRADE SUPPLIED.  
ALL SPARES IN STOCK.**

243/7, LOWER CLAPTON ROAD.

Works: 46, London Road, Clapton, E.S.

Phone: Clarendon 2408.

**EXPERT REPAIRS  
BY SKILLED  
MORGAN MECHANICS.**

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



# Why you should join the R.A.C.



## The Motorist who was NOT entitled to the "GET-YOU-HOME" Service

R.A.C. Associate-Members stranded by an accident or mechanical breakdown are conveyed by relief car to their home or destination up to 20 miles free of charge. The Club pays the bill.

During 1926, 8,000 members availed themselves of this benefit.

### ROAD SERVICE IS NEEDED BY EVERY MOTORIST.

The R.A.C. provides a complete service for the motorist's every need. Beyond the many Guides on the Road always at hand with help and information, there is the "Get-You-Home" Service—which alone is invaluable; then the Touring Facilities are of utmost use, so also are the Free Legal Defence, the Technical Advice, and the Special Insurance Facilities. The Licence Reminder and Lost Property Services are in themselves special features, whilst the use of Local Offices and Reading Rooms is often extremely helpful. You know that you will undoubtedly require any one of these Services at some time—so become an R.A.C. Associate-Member now, and enjoy the most complete service whether on or off the Road.

£2.2.0 p.a., WITHOUT ENTRANCE FEE  
CARS up to 1100 c.c. PAY £1.1.0 ONLY.

Cut out, fill in in Block letters and post to:—

The Secretary, ROYAL AUTOMOBILE CLUB,  
83 PALL MALL, LONDON, S.W.1.

I would like to become an Associate-Member. Please send me illustrated booklet and full particulars free of charge.

Name.....

Address.....

"The Light Car," .....



## TAKING THE "F" OUT OF "FOIL"



Good petrol . . . a good car . . . even so bad oil can foil you. Oil well, oil RIGHT, and you run well. The right grade of Motorine is the right kind of oil to buy.

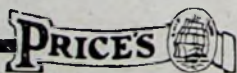
The reason is explained in "The Car" and "The Motor Cycle" (two books we have written to help you get the best from your 'bus). They are both free and yours for a p.c. addressed to Price's, The Oil People (Dept. EE14), London, S.W.11.

And please send your oil problems to Price's Technical Bureau. We delight in smoothing troubled waters. This service is free, of course.

# MOTORINE

*very special oil*

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



YOUR Light Car.

ISNT it Wonderful what

YOU can get out of it?

WITH ease, too!

IN fact, almost the only thing

THAT you cannot get out of it—

WITH ease — is

YOURSELF and

YOUR passengers.

FIT LEVEROLL seat mechanisms

WHICH give added

SPACE

AND grace

TO your Comings and Goings.

NO effort required but a finger-touch

AND the seat glides

BACKWARDS—and you step out clear.

FORWARDS—for your passengers' free exit.

BACK to its old position and—

CLICK—it locks itself automatically!

Fit LEVEROLLS, and throw away your shoe-horn. They give up to 20" extra space, and make your light car as roomy as a Rolls. Price £3 10 0 per set.

## 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.

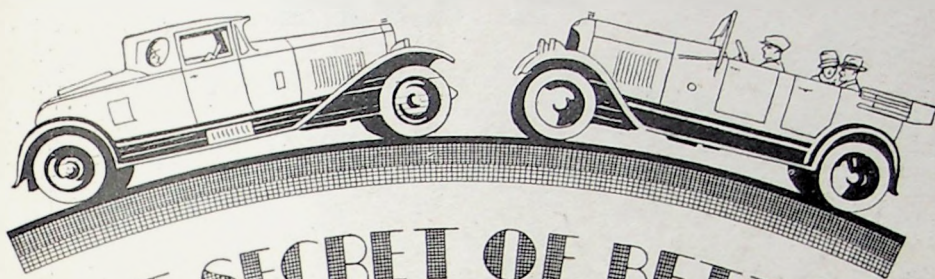
**A. W. CHAPMAN LTD.,**

Patentees and Manufacturers.

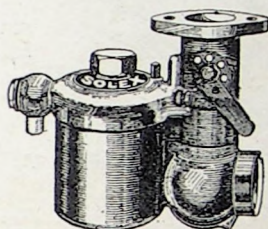
Ranelagh Gardens, HURLINGHAM, S.W.6.

Telephone: Putney 2372/3.





## THE SECRET OF BETTER MOTORING



The simplest and most certain way of improving your car, no matter what make it may be, is by fitting a "Solex" Carburettor. For increased power, decreased petrol consumption, and absolute simplicity, "Solex" has proved its value to thousands of light car owners.

### "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." SINGER: "52 m.p.g. with four up."

### 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 tuning and fitting Solex Carburettors.

## SOLEX LTD.

Director GORDON RICHARDS  
SOLEX WORKS, 223-231, MARLBOROUGH ROAD,  
LONDON, N.W.1.  
Telephone: Paddington 8921, 8922, 8923, 8924, 8925, 8926.  
Telegrams: "Solexcarb, Baker, London."

*'fit Solex—and note the difference'*

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

Goodall Ad.



## Signed Guarantee, too!"

Other motor agents said it couldn't be done when we announced our intention of giving a written guarantee with second-hand cars. We are doing it and have every intention to continue doing so—in fact, we consider it unreasonable to expect a person to buy a used car without an assurance as to its condition. The reasons for our confidence are very simple:

1. We only sell to the public cars which we know to be thoroughly dependable.
2. Our works have definite instructions not to pass out any car until they are perfectly satisfied as to its condition.

### A FEW SUGGESTIONS.

SWIFT, 1927, 10 h.p., 4-seater, run 250 miles only ..	£195
SWIFT, 1927, 10 h.p., 2-seater, in two colour finish ..	185
AUSTIN, 1925, 7 h.p. Chummy model, in perfect order ..	88
ROVER, 1927, 9/20 h.p., 4-seater, equal to new ..	185
ROVER, 1927, 9/20 h.p. Semi Sports, 4 seater, as new ..	215
CLYNO, 1926, 11 h.p. Royal 2-seater in excellent condition ..	155
SINGER, 1927, 10 h.p., 4-seater, in maroon finish ..	178
SINGER, 1926, 10 h.p., 4-seater, with full equipment ..	145
WOLSELEY, 1926, 11 h.p. SALOON, F.W.B., perfect condition ..	195
JOWETT, 1925, 7 h.p., full 4-seater, repainted ..	88

150 CARS ALWAYS IN STOCK.

**NEWMHAM**  
MOTOR COMPANY  
237-243-245, HAMMERSMITH ROAD,  
LONDON, W.6.

Telephone: RIVERSIDE 4646. (Private Exchange).  
Established over 30 years.

## EMPIRE WEEK.

Next week, July 18-25, is Empire Week in Hammersmith. A remarkably attractive selection of British built medium powered cars will be on offer in both our NEW and USED car showrooms. Many of them at

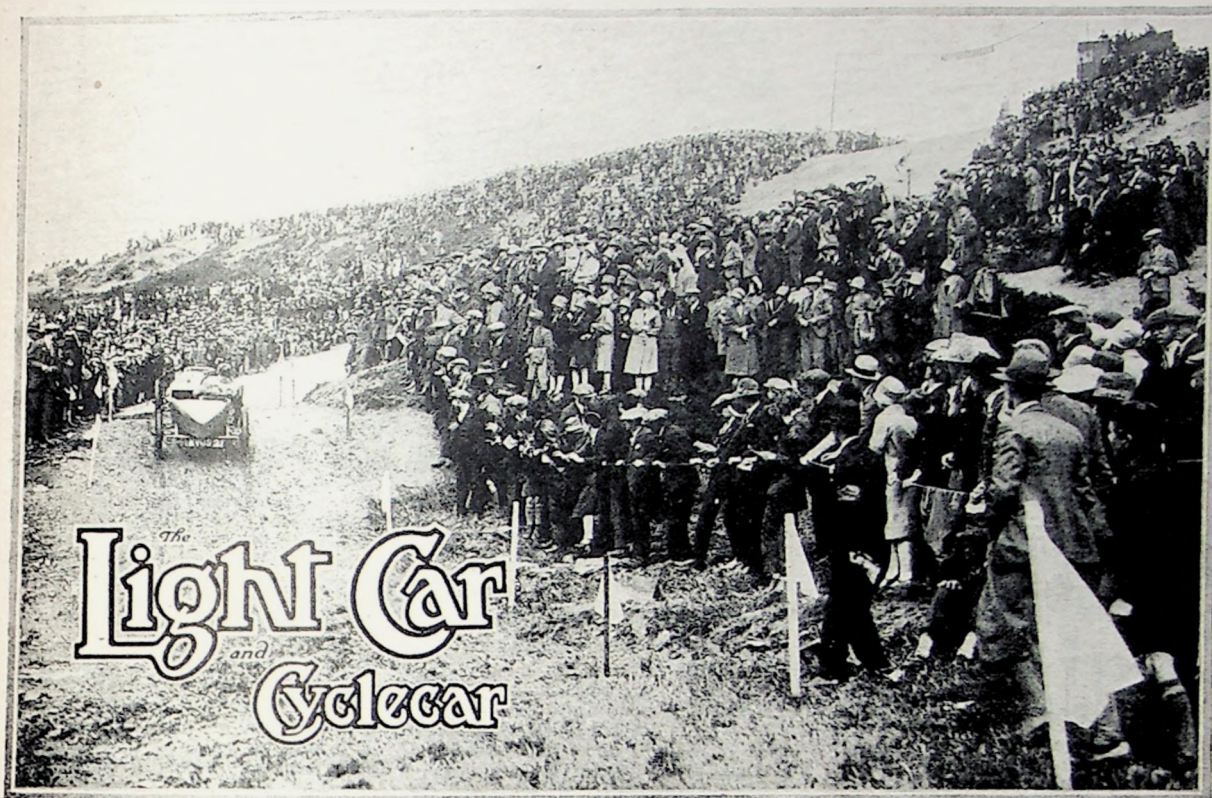
### SPECIALLY REDUCED PRICES

In buying a British car you buy the best, and incidentally help to stimulate trade throughout the country. Why not call and let us explain the many advantages of dealing with us, or if you cannot call, write for our lists and further particulars?

**Generous Exchange, Deferred Payment and Re-purchase facilities operative anywhere in the United Kingdom.**

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





RECORD DALTON  
BANK CROWD.

Fully 20,000 people were present at Dalton Bank last Saturday when the new circular course was used by the Huddersfield Motor Club. A section with a gradient of 1 in 1½ is included in the circuit and great interest was displayed by the spectators in the performance of the competing cars.

## NOTES, NEWS & GOSSIP *of the* WEEK

### Another Trap?

We are informed that the police have been seen measuring a section of the new by-pass road at Farnborough, Kent. Motorists will be well advised, therefore, to drive with caution over this stretch.

### A Striking Lead.

It has been officially announced that Sir Harold Bowden, chairman of the Raleigh Cycle Co., has sent a donation of £10,000 to the National Playing Fields Appeal fund. This is the largest individual donation made since the appeal was launched by the Duke of York.

### This Week.

The possibilities of free-wheel clutches are thoroughly investigated in an article which should interest those of our readers who are keen on under-entried inventions relating to motor-cars. Another contribution of a technical nature is entitled "Differential Gearing Explained"; it should clear up much that often perplexes novices. "With a Small Car in Great Spaces" will appeal to those who are never so happy as when they are exploring the country in a light car.

No. 762. VOL. XXX.

### ON OTHER PAGES

Pros and Cons of Free-wheel Drive	184
Differential Gearing Explained	188
Keeping a Trojan in Tune	190
Rich Mixture	194
Topics of the Day	197
Cyclecar Comments	198
With a Small Car in Great Spaces	200
Our Readers' Opinions	202
Ideas for Owners	206

### LIGHTING-UP TIMES (Rear Lamps) for Saturday, July 16th.

London	9.38	Birmingham	9.59
Newcastle	10.03	Liverpool	10.0
Edinburgh	10.15	Bristol	9.48
Moon—Last Quarter, July 21st.			

### Drinks for Motorists.

A number of leading citizens in Carmarthen (Wales), headed by Councillor William Jones, are publicly expressing the opinion that the law should be amended to prevent motorists from being served with intoxicants.

### Traffic Signals Failure.

Mr. William Phelps Eno, an authority on traffic problems, stated recently in New York that the control of traffic by synchronized lights presents an obstacle to scientific traffic management. He predicts a return to hand signalling.

### Next Week.

The successful development of really small four-cylinder engines is one of the greatest triumphs of modern motor-car engineering. The difficulties which have been encountered and surmounted will be dealt with in a comprehensive article, and the facts and figures given by the writer should prove very illuminating to those who are inclined to take light cars very much for granted. Sporting events over the week-end include a novel Brooklands meeting and the French Florio Cup race; both will be reported graphically and with numerous photographs.

### Boulogne Motor Week.

Special 15-day excursions will be run by the Southern Railway in connection with the Boulogne-Le Touquet speed trials and motor races, which take place from September 5th to 11th inclusive. Special rates are also being quoted for the transport of cars taking part in the races. We shall publish the full programme at a later date.



### Our Cover Picture.

One of the latest 9 h.p. Humber four-seaters, with l.w.b., figures in the attractive photograph reproduced on our front cover this week.

### Sartor Resartus.

A policeman has been convicted and fined £2 for exceeding 60 m.p.h. through a trap on the Great West Road. It is interesting to speculate on the probable fine had the offender been of any other occupation.

### Delage Team for Grand Prix.

The team of three 1,500 c.c. Delage cars which finished first, second and third in the French Grand Prix on Sunday, July 3rd, has been entered for the Grand Prix of the R.A.C., which takes place at Brooklands on Saturday, October 1st.



The first of a new type illuminated signpost in London has been erected near Vauxhall Bridge.

### E.M.C. Brooklands Meeting.

The Essex Motor Club will hold a Brooklands meeting on Saturday, August 20th. The programme will consist of short handicaps and a 50-mile race. Particulars and entry forms may be obtained now from Mr. Ernest J. Bass, 40, Chancery Lane, London, W.C.2.



### WEEKLY WISDOM.

Though a shadow may lack substance,  
yet may it be a help unto thee in  
times of danger.

### "The Light Car and Cyclecar" at the Advertising Exhibition.

Stand 160 at the forthcoming Advertising Exhibition, to be held at Olympia, London, from July 18th to July 23rd, will be devoted to *The Light Car and Cyclecar* and its associated journals.

Situated near the Addison Road entrance, this stand will embody an interesting and instructive display of Temple Press motoring publications, both journals and books, covering every phase of the subject.

Widespread interest is being displayed in the Advertising Exhibition, the aim of which is to present a comprehensive picture of the potentialities of advertising, and to demonstrate its rapid rise to the position of the greatest force in the marketing of produce and manufactured articles. Among the many special features of interest to the general public will be British and Continental shop window artists in display competitions, a display of advertising novelties, and a presentation of the wonders of film and mechanical advertising.

### U.S. Oil Production.

According to Reuter, the American Petroleum Institute's estimate of the production of crude oil in the United States during the week ending July 2nd was 17,749,000 barrels.

### A Long Road.

To commemorate the 60th anniversary of Canadian confederation it has been suggested that a national highway, some 5,400 miles long, across Canada, from the Atlantic to the Pacific, should be built. The road would be known as the Confederation Highway.

### Sunsaloon Bodies.

So great has been the interest displayed by motorists in "closed cars which open" that Messrs. Alexander Motors, Edinburgh, makers of the Sunsaloon bodies, have registered a separate company for the purpose of dealing solely with this business. The bodies can be supplied for any make of chassis, and several car manufacturers are standardizing models for 1928.

### Brooklands To-morrow.

An interesting programme has been arranged for the Brooklands meeting which takes place to-morrow, Saturday. The first event will be a five-lap handicap for cars of any engine capacity. This will be followed by three scratch races for cars up to 1,100 c.c., 1,500 c.c. and 2,000 c.c., respectively, each consisting of ten laps of the "Junior Grand Prix" course. There are also an ordinary 90 m.p.h. Long Handicap and a Winners' Handicap, the programme concluding with a 100-mile handicap open to cars up to three litres. Twenty-three entries have been received for this, and an excellent race should result. This meeting has been organized by the *Sporting Life*, with the co-operation of the Brooklands authorities, in an endeavour to ascertain whether the public would welcome a change from the standard long and short handicap races.

### Rover Instructions.

Following criticisms which were made in a recent issue of *The Light Car and Cyclecar* concerning the lack of instructional matter issued with certain new cars, the Rover Co., Ltd., point out that every purchaser is provided with a comprehensive book on upkeep and management, separate brochures on the lighting and starting set, the Armstrong shock absorbers and the Smith carburetter, whilst, in addition, a list of Rover dealers and a large maintenance chart for use in the garage are provided.

AN AUSTIN  
SEVEN COUPE.

A standard Austin Seven chassis is used to carry this convenient two-seater "Coupette" body, which is made by the Arc Manufacturing Co., Hyde, Manchester. The complete car, fully equipped, costs £175.



### Amilcar Success.

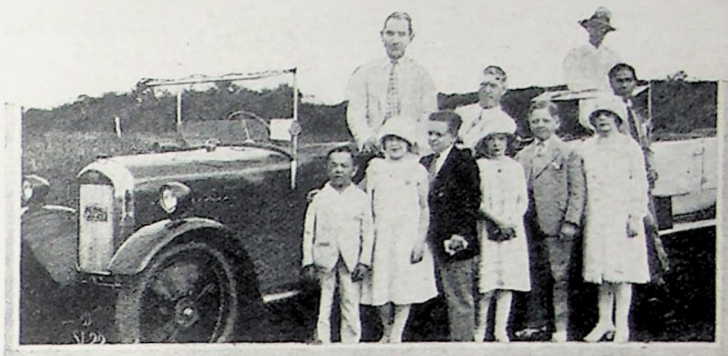
At the first Monza Grand Prix, which was held on Sunday, June 26th, Zampieri, in a six-cylinder supercharged 1,100 c.c. Amilcar, won the final of the 50-kilom. handicap.

### The White Line.

We commented last week on proceedings at the Sittingbourne Police Court, where a number of motorists were fined for disregard of a white line. The Minister of Transport, questioned recently by Sir Walter de Frece, M.P., concerning this, has replied: "So far as I am aware, it is not, in itself, an offence to drive on the wrong side of a white line, but no doubt any bench of magistrates would take such a circumstance into serious consideration in any prosecution for dangerous or reckless driving."

### The 10.25 h.p. Rover

We are informed by the manufacturers of Rover cars that engines with later numbers than 23,001 will be designated 10.25 h.p. Readers owning cars with later engine numbers than 23,001 will be sent a new radiator badge to replace the 9 h.p. badge on application to the Rover Co., Ltd., Meteor Works, Coventry, providing they furnish the engine number when applying.



ADULT  
PASSENGERS!

Singer Juniors provide ample room for four adults, but Irving's Imperial Midgets who are using these cars in Kuala Lumpur find the accommodation more than they require.

### "Aged 23, Motorist."

The classification of "motorist" now seems to be accepted in the police courts as an occupation of some kind. For years we have been used to "dealer," "clerk," "professional backer of horses" and "agent"—occasionally even "no occupation"—but "motorist" seems to be a new departure in official descriptions.

### Spectators Please Note.

Considerable annoyance is frequently caused to motorists by the unofficial damming of watersplashes in reliability trials. A case occurred recently in the Trough of Bowland, where a stream was dammed, despite the protests of an official who was present, and which caused the water to rise to a depth of two feet. Not only did this seriously interfere with the use of the road by non-competitors, but it completely spoilt the trial, which was of a non-stop character. The R.A.C. appeals to all those interested in reliability trials, whether as officials or spectators, to refrain from this practice, which interferes with the sport and brings it into disrepute.



A COLONIAL  
SECTION!

The severe storm which broke over London last Monday damaged many main roads. This photo shows the torn-up wood paving of the Kew-to-Richmond road.

### The J.C.C. Sporting Car Race.

Intending entrants in the Sporting Car Race to be held at Brooklands on Saturday, August 13th, are reminded that, in accordance with the R.A.C. Competition Rules, they must be members of the Junior Car Club prior to July 23rd (twenty-one days before the day of the event). The club informs us that at almost every event it is necessary to return entries owing to non-compliance with this regulation, and it is hoped that this reminder will obviate the necessity arising in connection with future events. Entries for the race close on July 30th, and copies of the regulations can be obtained from the J.C.C. at Clock House, Arundel Street, Strand, W.C.2.

## PRESS DELEGATES AT FORT DUNLOP.

LAST Monday, July 11th, about 150 of the delegates attending the International Conference of the Press were the guests of the Dunlop Rubber Co., Ltd. A special train conveyed the party from London to Birmingham and, arrived at Fort Dunlop, the visitors, who represented over 20 nationalities, were shown over the vast works by guides. In the morning the processes of inner tube manufacture were followed from the raw material to the finished article, after which lunch was provided. In the absence, through illness, of Sir Eric Geddes, the chair was taken by Sir George Beharrell, who, in welcoming the delegates, said that the entire factory was open to their inspection, as

the company was proud of its works and its workers—both were second to none in the world. Speeches were made also by the Lord Mayor of Birmingham, by the President of the Conference, and others.

After lunch the main party was shown how golf and tennis balls are made on mass production lines, but some of the visitors made their way to the test shop in which examples of the 158 different types and sizes of Dunlop tyre are tested to destruction. In this shop the machines on which the tyres for Major Segrave's record-breaking car were tested at a speed equivalent to 200 m.p.h. were examined with interest. At the conclusion of the works tour the

party was conveyed to the railway station, thence by special train to London.

Users of Dunlop tyres will be interested to know that the Fort Dunlop estate comprises 481 acres, of which 115 acres are devoted to the manufacturing site. There are over 10,000 employees in the works and nearly all the equipment is made on the premises. In the Dunlop power station the steam turbine plant develops 22,000 h.p., whilst the coal consumed exceeds 2,500 tons per week.

Water for use in the factory is supplied by four artesian wells 800 feet deep and delivering 2,000,000 gallons per day.





## THE PROS AND CONS OF "FREE-WHEEL" DRIVE.

A TECHNICAL EXPERT, WHOSE VIEWS ARE RESPECTED THROUGHOUT THE MOTOR ENGINEERING WORLD, DISCUSSES DEVICES WHICH ENABLE A CAR TO OVERRUN ITS ENGINE. WILL THEY BECOME POPULAR?

IT has for long been realized that the difficulties involved in the control of the transmission system constitute a serious deterrent to the further expansion of motoring and considerably reduce the pleasure which many not too expert drivers might otherwise gain from it. Compared with the time taken to learn how to steer and how to control the brakes and the engine, the period needed to make a driver confident about gear-changing at reasonable speeds is inordinate, whilst very few ever attain to the degree of efficiency which enables them to change down, say, at 35 m.p.h. with absolute confidence and without producing any noise from the gears.

Consequently, it is not surprising that for years inventors have been trying to evolve better methods for transmitting engine power to the rear axle, despite which the orthodox gearbox, with its few widely separated gear ratios and crude mode of gear engagement, still holds the field owing to its extraordinary durability and reliability.

As a matter of fact, the orthodox gearbox, criticise it as we may, possesses so many admirable qualities

if the foot be suddenly lifted from the accelerator pedal after a burst of acceleration, instead of the car driving the engine, as is the case at present, an overrunning clutch permits the car to coast forward as though in neutral, while the engine immediately slows down to its "tick-over" speed.

It is the freedom conferred upon the gearbox mechanism which enables the gears to be selected so readily when this system is employed and, in addition, it lends itself to modifications which make the gears even easier to change.

Let it be understood at the outset that to provide a car with a free-wheel device has been suggested time and again during the past 25 years, but it is now perhaps more likely to succeed than at any previous

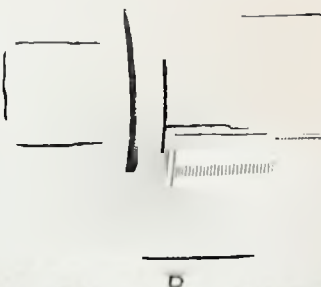
### ONE FORM OF FREE-WHEEL CLUTCH WITH ITS SUGGESTED POSITION IN THE TRANSMISSION.

Showing alternative positions for the free-wheel and the maximum torque which it would have to carry in each case for, say, a 10 h.p. light car with a 5-to-1 top gear and a 20-to-1 bottom gear.

BEHIND GEAR BOX  
2000 LB.-INS

BESIDE DIFFERENTIAL  
10,000 LB.-INS

MAXIMUM ENGINE  
TORQUE 500 LB.-INS



The Humfrey Sandberg clutch, showing (A) the driving member and (B) the driven member. The engagement of the clutch depends upon the wedging action of the rollers.

that it is not likely to be supplanted by a totally unorthodox transmission unless some genius evolves a mechanism which, in addition to obviating the difficulty of gear-changing, provides reliability, durability and efficiency to the same degree.

Realizing this fact, many inventors have turned their attention to what may be termed modifications or adaptations of the ordinary gearbox, which have as their aim the retention of all the good qualities of the design and, additionally, the provision of a special mechanism to overcome gear-changing difficulties.

One of the most promising modifications of those which have been suggested is the provision of an overrunning clutch or clutches, so arranged that the car can at any time overrun the engine when the power transmitted is less than the power required for the conditions under which the car is running; for example,

time, partly owing to the big brake improvements of recent years and partly because advances in metallurgy now place materials at the disposal of the designer of an overrunning clutch far more suitable than any which were previously available.

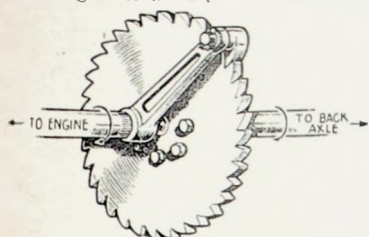
Another reason why it seems likely that a satisfactory and durable form of overrunning clutch may be evolved is that considerable work has been done on the subject by the designers of various unorthodox infinitely variable gears which depend for their operation on some such ratchet device.

The names of Constantinesco and De Laval will immediately come to mind in this connection, each of whom has employed roller clutches giving a one-way action with considerable success, and it should be borne



in mind that in these infinitely variable gears such a clutch is operating under far more arduous conditions than would be imposed if it were incorporated in an ordinary gearbox.

The Constantinesco overrunning clutch, for example, has to reciprocate continually at a high rate of speed, alternately picking up and releasing the load, and the fact that a mechanism can be designed which will successfully withstand such treatment when run for thousands of miles on the road may be accepted as showing that a very durable design could be evolved



The principle—driving the back axle through a species of ratchet—which permits a car to overrun the engine.

on similar lines for application to a gearbox of the orthodox type.

If it be granted that what we may call the engineering, or designing, side presents no insuperable difficulties, we can proceed to consider whether the advantages which such a device confers outweigh or fall short of the disadvantages which it entails; in other words, is it worth while?

### A Useful Analogy.

If an overrunning clutch of this kind be incorporated in the transmission system, it works in much the same fashion as the free-wheel of a bicycle, in which the driver's effort at the pedals takes the place of the engine of a car; the transmission system is represented by a chain, and the overrunning clutch takes the form of a free-wheel mounted in the rear sprocket. This is a useful analogy, because there is hardly anyone who has not ridden a bicycle, so that the action of the device is quite readily grasped.

If the bicycle is being pedalled at about 10 m.p.h., everyone knows that the rider can cease to exert any effort whenever he wishes and can, in fact, turn the pedals at any speed up to a given limit, or can hold them stationary, without affecting the way in which the bicycle coasts forwards. It will also be noticed that if the bicycle be pushed backwards the pedals are forced to turn in reverse.

Applying these observations to the case of a car, it will be clear that if the transmission be fitted with an overrunning clutch then the car will coast forward whenever the accelerator pedal is released and, if stopped with a gear engaged on an upward gradient, cannot run backwards without turning the engine. On a downward gradient, however (failing the provision of some special auxiliary control), the engine is incapable of acting as a brake.

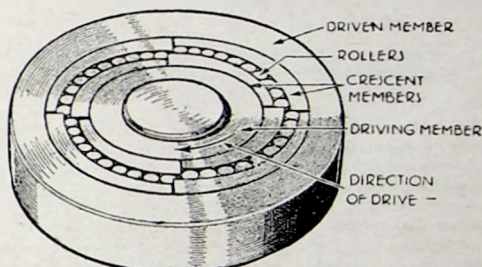
Having briefly explained the way in which the device would work, we can proceed to consider the pros and cons. First in the list of advantages comes ease of gear-changing, which has already been mentioned. The next point is that the petrol consumption will be greatly reduced owing to the additional use which is made of the momentum of the car; in the ordinary way

a great deal of petrol is wasted when the car is driving the engine at a fairly high rate of revolution with fuel continually being sucked through the pilot jet in needlessly large quantities. If any reader requires proof of this, he should (having first made sure that the clutch-withdrawal race is well lubricated.—E.D.) drive a distance of, say, 20 miles over give-and-take roads, declutching and coasting whenever conditions permit, when he will probably find that his petrol consumption is quite 10 per cent. lower than usual.

### Noisy "Overrun" Avoided.

Another advantage is that the noisy and generally unpleasant "overrun" obtained in an ordinary car when it is being slowed by means of the engine, which is particularly objectionable when an indirect gear is engaged, is entirely avoided by employing an overrunning clutch. A further and most important advantage of a free-wheel device would be that when the clutch was freed the gearbox shafts would come to rest and gear-changing would thus be made as simple as it is when the car is at rest.

The foregoing are the principal advantages claimed for the system. Turning to the disadvantages, the most important is undoubtedly the loss of the braking

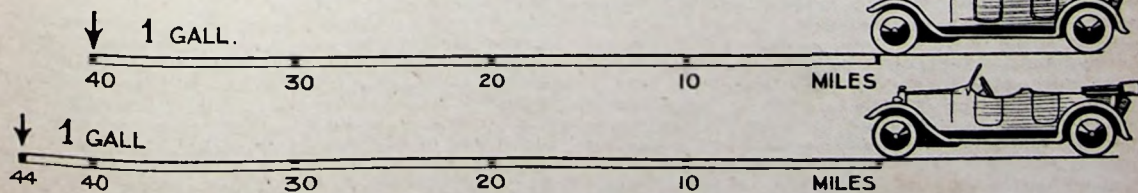


The Constantinesco "valve," by means of which oscillating motion is converted into rotary motion.

effect of the engine. Modern systems of four-wheel braking are, of course, so good that it may be questioned whether these disadvantages are very serious, but there are other things to consider besides controlling the car on a steep downward gradient. After all, there would be no particular difficulty in arranging a device to throw the free-wheel out of action at the will of the driver, and this would enable him to keep the engine in gear when commencing the descent of a dangerous hill.

It is more the effect upon the general driving of the car caused by the loss of engine braking which should concern us.

For example, when accelerating to pass another car in traffic it is frequently necessary to slow down again to avoid collision with a vehicle further ahead, and in the ordinary way this can quite well be accomplished by the simple process of lifting the foot from the accelerator pedal. In the case of a free-wheel car, however, an application of the brakes would be required every time. Consequently, the brakes would be working harder than is normally the case, and would probably require to have drums of larger area in order to reduce the frequency of lining replacements.

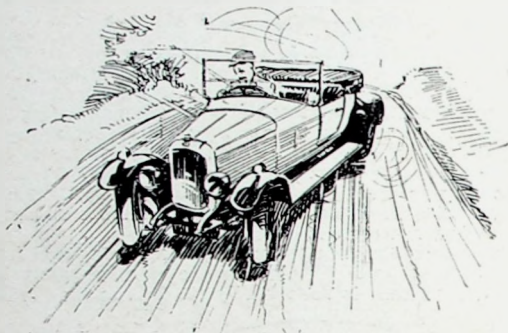


It is estimated that a car with an overrunning clutch would cover 10 per cent. more miles per gallon at least.



Furthermore, the manufacturer would have to give careful consideration to the operating gear so as to reduce pedal pressure to a minimum, because otherwise there would be a considerable increase in driving fatigue. It might even be found necessary to fit servo-brakes to the larger types of light car to compensate for the increased amount of braking to be done.

While dealing with this side of the subject it is opportune to consider the effect of a free-wheel transmission upon the stability of a car on a slippery road.



**It is contended by opponents of free-wheel transmission that skidding would occur, as the engine would not exert a steadying influence on the rear wheels.**

If the weight distribution of a car is well arranged and a big proportion of the braking (say 60 per cent.) is diverted to the front wheels, it does not matter very much whether it is being braked with the gear in neutral or with a gear engaged, but it would be folly not to admit that there are very many cars on the road to-day which can safely be braked on grease with the clutch engaged, but are prone to skid if brake and clutch pedal be depressed simultaneously—conditions corresponding to those imposed by a free-wheel transmission.

#### Stopping on Grease.

This is because a braking system with a fifty-fifty distribution fore and aft tends to lock the rear wheels on a greasy road, and the tendency is normally counteracted by the inertia of the engine, which tends to keep them turning. Consequently, there are very many cars which can be pulled up without difficulty if the clutch be left alone until the very last minute on a greasy road, but which will "tail-wag" immediately if the brake and clutch pedals are depressed simultaneously.

The conclusion is that any car fitted with a free-wheel transmission will have to be provided with brakes of more than ordinary efficiency which will take effect more forcibly on the front wheels than on the rear wheels.

As regards the use of servo-motors, it is a pity that for a free-wheel car the type which has proved perhaps the greatest success for orthodox cars during the past year or two—namely, the Dewandre suction-operated servo-brake—can almost be ruled out owing to the fact that the servo action ceases so soon as the engine stops. In an ordinary car the engine is, in any event, kept going by the transmission, but in a free-wheel car it may stop very easily during the descent of a hill if the slow-running adjustment is not right. In such circumstances the brake could still be operated directly owing to the ingenious construction of the Dewandre mechanism, but the sudden increase of pedal pressure then required would be disconcerting, if not dangerous.

A mild disadvantage of a free-wheel system would be that the engine cannot be started by means of the inertia of the car should it stop in the course of a descent (nor could it be started by towing, incidentally), but this is not of very much moment in these days of efficient electric starters. Other points are that a free-wheel clutch would be working during quite a large proportion of the time that the car was running, and

might therefore prove subject to wear and noisy running, while it would, of course, represent additional complication of the transmission system.

Finally, there is the question of reversing. A free-wheel bicycle cannot be moved backwards by reversing the direction of rotation of the pedals, and in the same way the engine of a free-wheel-clutch car would be useless; this emphasizes the need for some form of locking device that could be put in or out of action easily and quickly.

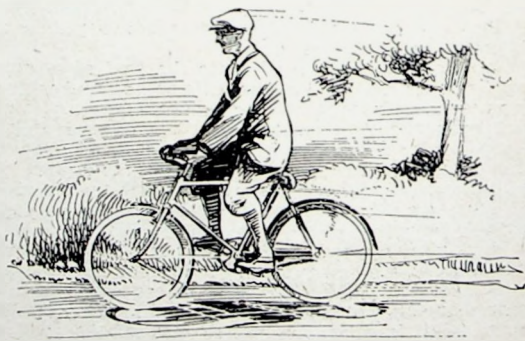
#### Practical Applications.

Space will not permit of more than a brief reference to the ways in which an overrunning clutch of this kind can be fitted. At first sight it might seem that the simplest solution is to place it in the final drive, say between the crown wheel and the differential casing. In this position, however, it would have to take the maximum torque, which consists of the maximum engine torque multiplied by the ratio on lowest gear, and it would be probably difficult to arrange a clutch of reasonable size which would successfully perform this duty.

If placed behind the gearbox, driving the propeller shaft, it would be in a better position, but would still have to withstand anything up to four times engine torque when the car was running on bottom gear. From these points of view it would seem that it might well be placed between the engine and the gearbox, or, of course, in the gearbox itself.

A "free-wheel" gearbox which has received considerable prominence recently and was fully described in *The Light Car and Cyclecar* some months ago incorporates the Humphrey Sandberg clutch principle. In this system the gears of the mainshaft and layshaft are in constant mesh, and each of the mainshaft gears is so fitted that it rides freely unless clutched up by means of an ingenious form of roller clutch fitted inside it. It is by means of these roller clutches that the gears are selected and they also have the property of permitting a free overrun, so that the car can coast at any time. A special device for locking bottom gear is incorporated, which enables the engine to be used as a brake when descending a particularly steep hill.

Quite recently another new adaptation of the gearbox was described in our associated journal *The Motor* in which the car cannot coast unless the driver depresses the clutch pedal. After the release of the



**An overrunning clutch in the transmission of a car would allow it to free-wheel like a bicycle and would thus save wear and tear and petrol.**

clutch pedal it will continue to run as though in neutral—during which time any gear can be engaged at will—until the accelerator is depressed, the desired gear-change being automatically completed so soon as the correct relation between engine revolutions and car speed has been reached. The writer has also been privileged to examine other systems embodying the principle of freeing the gearbox before making a gear-change which are being worked out at the present time.



Summing up, it seems fair to say that the advantages conferred by these systems fully outweigh the disadvantages and are so important that, before very long, free-wheel cars will be on the road in the hands of the motoring public. As one who has driven some of these cars, the writer would advance the opinion that anybody learning on them and completely new to motoring would probably find them much easier to drive than the orthodox car, whereas the experienced motorist who is used to the orthodox system will find that it takes him a certain amount of time to become used to the peculiarities of the free-wheel system. It is at first particularly disconcerting to find that the sudden

release of the accelerator pedal after a burst of acceleration on full throttle produces practically no retarding effect, but, of course, one becomes accustomed to this before very many miles have been covered. It should be noted that the Tilling-Stevens petrol-electric commercial vehicle and the Crown Magnetic car both overrun free.

The whole motoring world will watch with the keenest interest the numerous experiments in connection with free-wheel transmission which are being conducted, and it is already believed in engineering circles that they are almost certain to produce before very long results of considerable interest.

## ATTRACTIVE NEW BERLIET MODEL.

THE latest 12-25 h.p. Berliet to reach this country is fitted with most attractive Weymann coachwork and costs £325. As the photographs on this page show, the body is of the four-door type, and the equipment is unusually generous, including, as it does, fenders fore and aft, a very roomy case for luggage, snubbers all round, an automatic windscreen wiper, a rear-view mirror and numerous other refinements. The body is covered with an attractive leather cloth material and is upholstered inside with a serviceable cloth, which tones with the exterior finish.

Generous seating accommodation is provided, the two front bucket seats being separately adjustable and all the seats having deep cushions which are well stuffed and sprung and give a very satisfactory degree of comfort. The door windows can be raised and lowered by mechanical lifters, whilst the after pair and the back window are provided with spring-up blinds. The front screen is of the single-pane type, hinging outwards from the bottom, an arrangement which provides exceptionally good ventilation.

The chassis is of the type which was described in

*The Light Car and Cyclecar* dated May 6th, 1927, and is an improved version of the original 10-20 h.p. Berliet, which made its way to this country in fair numbers.

It will be noted that the car shown in the photographs has no wing lamps, but these are being provided as standard equipment. Refinements which critical motorists would appreciate include the provision of half-elliptic springs back and front, a very large petrol tank at the rear supplying through a vacuum tank, and the fitting of a large-diameter thin-rimmed steering wheel similar to that supplied with the six-cylinder Berliet model.

### THE LATEST BERLIET SALOON.

Attractive lines are a feature of this roomy £325 Weymann saloon, which is rated at 12-25 h.p. The new Michelin tyres will be noted; these are standard equipment and help to give the car an appearance of exceptional sturdiness.



## DIFFERENTIAL GEARING EXPLAINED.

THE WORKING OF THE DIFFERENTIAL—FINAL-  
DRIVE GEARING — PRACTICAL DIFFICULTIES.

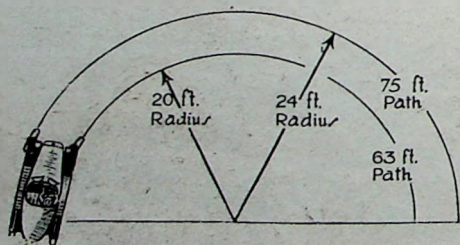
CONVENTION demands that the engine of a car shall be situated at the front of the chassis; necessity therefore demands some means of transmitting the power from the engine to the rear axle. In 99 per cent. of modern cars the means of transmission takes the form of a rotating shaft known as the propeller shaft.

The consideration of the propeller shaft, its mounting and general design, is a problem in itself. The particular portion of the power transmission layout to be considered here is that enclosed within the rear-axle casing; that is, the gearing by which the motion of the longitudinal propeller shaft is transmitted at right-angles and the arrangement of gearing known as the differential which permits one rear wheel to move faster than the other when the car is turning a corner.

It should be obvious that of the two rear wheels one has to travel farther than the other when the car is moving on a circular path. It is necessary to transmit the full power to both wheels, but at the same time they must be capable of independent rotation to prevent undue slipping when the vehicle is moving out of the straight. The large difference of speeds of rotation will be evident on slight consideration.

Suppose that a car has a track of 4 ft. and that the front wheels are locked over so that the inner rear wheel is following a path of 20-ft. radius; the outer rear wheel will thus be travelling along a path of 24-ft. radius. Simple calculation shows that if the car is driven through a semi-circle the difference between the lengths of these two paths is over 12 ft. If it be assumed that both wheels slip equally the inner rear wheel will slip about 6 ft. in a distance of approximately 63 ft., and the outer wheel a similar distance in about 75 ft.

These figures, by no means extreme, show clearly that some device for permitting independent rotation of the driving wheels is most desirable even if not absolutely necessary.



When a car travels along a semicircular track there is a large difference between the lengths of the paths traversed by the inner and outer wheels.

The differential gearing in the majority of cases is enclosed in the rear-axle casing together with the bevel or worm-wheel drive through which the power from the propeller shaft is transmitted at right angles to the rear axle. The theory of operation of the differential gearing will be simpler to understand when once some idea

of its arrangement and construction has been obtained.

In practical form the mechanism is contained in a casing attached to the worm wheel or bevel of the final right-angle drive. It is important to note that the crown wheel itself has no *direct* connection with the rear axle; the drive is transmitted through the differential mechanism and the crown wheel is mounted on an independent bearing on a portion of one of the rear-axle shafts.

It will readily be seen from one of the accompanying drawings that the rear-axle shaft is split, two pinions of the differential mechanism being attached to the two ends enclosed within the casing. Two other bevel pinions, at right angles to those attached to the rear axle shafts, are placed on a common shaft rotating in bearings in the differential casing to which is secured, also, the crown wheel. Thus if the two bevel pinions were fixed in position and if they could neither revolve together nor independently, the crown wheel, differential casing, pinions and the two portions of the rear axle would thus, in effect, be one solid shaft on which are fixed the rear wheels, driven by one main final-drive bevel or worm wheel from the propeller shaft.

The differential pinions are not fixed to the casing, however, and are capable of rotating on separate bearings on the same shaft.

### A Balancing Effect.

It should now be easy to realize that if one of the rear wheels be held the other can still revolve. The effect, upon rotating the free wheel, will be that the differential pinions will travel over the face of the opposite fixed pinion on the axle shaft, carrying with them the differential casing and final-drive bevel to which they are attached. The obvious result is that while one wheel is held fixed the other can be rotated and can turn the propeller shaft and crankshaft.

The reverse action also holds true. The propeller shaft can transmit power to the differential casing and can rotate one wheel without necessarily affecting the other. In fact, the speed of rotation of one-half of the rear axle is entirely dependent upon the resistance to rotation imposed upon the other; a further illustration should make this clear.

The differential gearing, although allowing certain independent rotation of each rear wheel, is capable only of distributing power; the rotary motion of the propeller shaft is transmitted to the axle shafts in varying proportions according to the load imposed. If one wheel be offered a resistance which prevents it from turning, the other wheel must revolve at double the speed of the differential casing. If both wheels be permitted to rotate, but at different speeds, the differential will permit of any speed ratio between the axle shafts.

Upon a sudden resistance being offered to one half of the axle the pinions running on the shaft attached to the differential casing will travel over the face of the bevel pinion mounted at the end of the axle shaft which is being held. This action will cause an alteration of the gear ratio between the two axle shafts and



compel the unrestrained wheel to rotate at a higher speed.

Differential gearing thus permits the rear wheels to rotate at different speeds, as is clearly necessary when a car is rounding a curve, but does not—in theory—allow any power to be wasted. In a modern rear axle of good design the power lost is in the neighbourhood of 10 per cent., this loss being due to bearing resistance, oil drag, and so forth.

The constructional details of differential gearing present no special difficulties, but it should be noted that when strength of the rear axle assembly is of particular importance three or four differential pinions are set at equal distances around the supporting cage. Strength of the complete gearing is thus increased, and strain on each individual pinion reduced, but this does not interfere with the action in any way.

In some cases plain spur gears are used in place of bevel pinions in the differential assembly. An examination of an accompanying sketch of this type will show that each axle shaft is fitted with a straight-toothed pinion in mesh with which are smaller pinions carried on spindles fitted in the differential casing. In addition to meshing with the axle-shaft pinion each small pinion meshes with one which is in engagement with the opposite axle-shaft pinion.

#### Practical Disadvantages.

Thus, in effect, the action is exactly similar to that of the bevel-type assembly, the small pinions balancing up the speed ratio differences between the two axle shafts whenever the car is steered to the right or left of its normal straight path.

One great drawback to the use of differential gearing should be evident if the theory has been grasped; the major portion of the power is transmitted to the road wheel which meets with the least resistance.

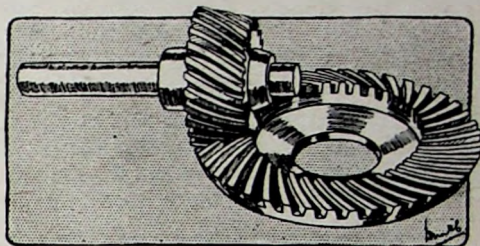
The differential mechanism is always ready to come into action and wheel-spin may be set up if, when the car is travelling on the straight, one wheel arrives on a greasy patch while the other is gripping a dry surface. The major part of the drive will then be transmitted to the wheel which has least hold on the road, and slip will occur.

For permitting independent rotation of the rear wheels, necessary when a car is not taking a straight course, the present type of differential gearing is perfectly satisfactory, but driving difficulty is occasionally increased owing to slipping occurring on greasy surfaces.

The efficiency of the working of the rear axle as a

whole depends as much on the type of final drive employed as on the differential gearing enclosed within the casing. For noiseless working, reliability and long length of life of moving parts, the manufacturers must give careful attention to the gearing which transmits the motion of the propeller shaft at right angles to the differential casing.

The original method of transmitting the power was by straight bevel gearing; few cars embody a final drive of this type nowadays, however, as it was found that straight bevels are apt to wear rather quickly and



Spiral-bevel final drive combines the advantages of high efficiency and silence of working.

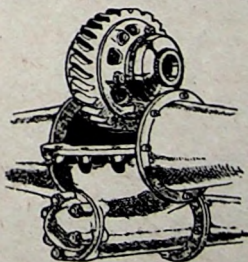
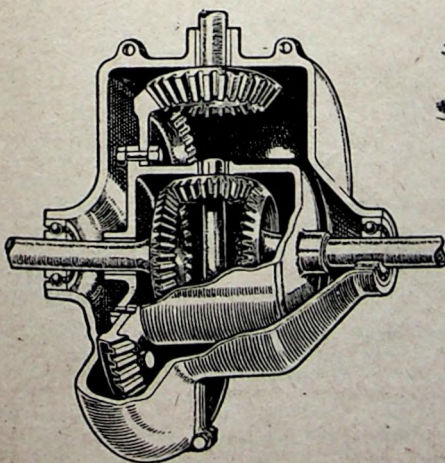
are difficult to silence. Advances in the design of machine tools have made it possible to produce spiral-bevel gearing in a rapid and economical manner, and this type is now commonly fitted as a final drive. This gearing has a high ratio of efficiency and is perfectly silent in working, as the engaging teeth are in rolling contact throughout their movement.

With regard to worm gearing, this did not reach the popularity it deserved for some considerable time, owing to the difficulties of manufacture, but now that suitable machine tools are available for turning out gears of this type in large quantities, more general use is being made of worm-driven rear axles.

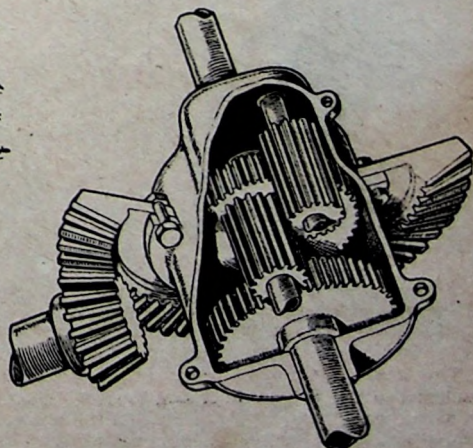
It will easily be seen that the sliding action of the worm gear ensures permanent silence, for even when the parts wear after long usage there is no movement in the action of the gearing likely to cause noise.

One reason for the silent working of worm gear is that the shape of the teeth allows a thick film of lubricant to remain in position. Bench tests have shown that this film carries the major portion of the load, and the actual wear of metal in a correctly designed worm drive is negligible. Nearly 100 per cent. efficiency can be obtained from well-made worm gearing, and its suitability for automobile use is unquestioned.

#### VARIOUS ARRANGEMENTS



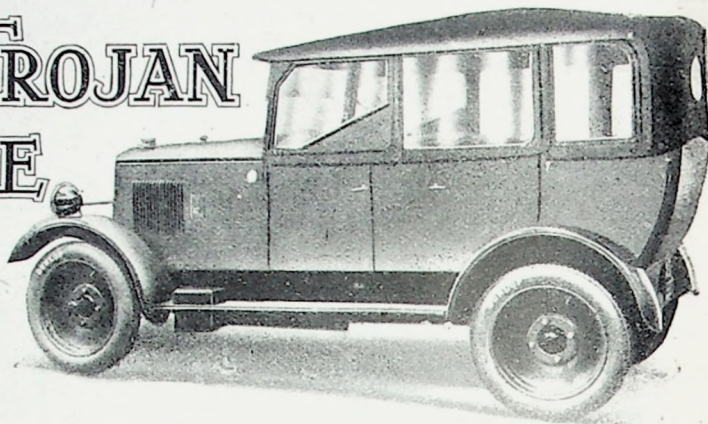
(Above) In certain designs the worm-wheel unit may be withdrawn without dismantling the axle. (Left) A section of a bevel-gear differential, and (Right) how spur geared is arranged.



#### OF DIFFERENTIAL GEARING.



# KEEPING a TROJAN in TUNE



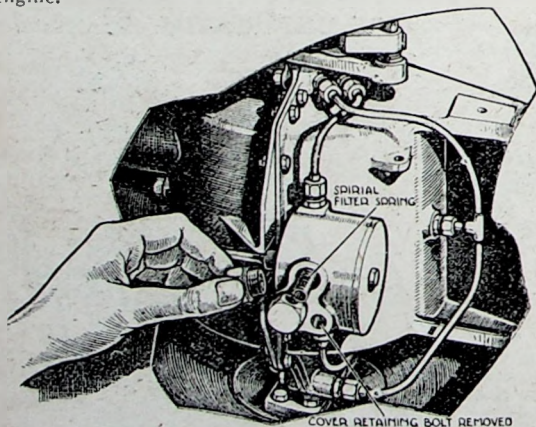
A PRACTICAL AND HELPFUL ARTICLE  
FOR THE TROJAN OWNER. IT SUP-  
PLEMENTS THE INSTRUCTIONS GIVEN  
IN THE MAKERS' HANDBOOK.

*Ease of maintenance is one of the many points of advantage claimed for the Trojan; but at regular, if very infrequent, intervals there are certain jobs to be done, and a knowledge of how to do them in the quickest, cleanest and most efficient manner is desirable. The accompanying article has been prepared with the object of supplying this information.*

**T**HE main object of the designer of the Trojan has been to reduce the amount of time and attention needed at the hands of the owner to the bare minimum, and to achieve this object preconceived and established ideas in car design have been, where necessary, ruthlessly abandoned or radically modified.

The two-stroke engine of the Trojan is lubricated by oil that is introduced in solution in the petrol. Superficially, this system of lubrication appears to be similar to that adopted on most two-stroke engines, as commonly used on motorcycles and for stationary purposes. Half a pint of oil, such as Duckham's "Oil for Trojan Cars," Triple Shell or Mobiloil BB (A in winter) is poured into the petrol tank with each two gallons of petrol by means of a special "petrol" funnel.

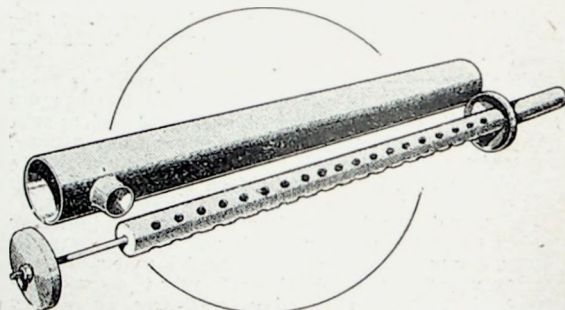
It is, however, only in so far as the mixing of oil with the petrol is concerned that the method of lubricating the engine of the Trojan has much in common with the systems usually employed for two-strokes, for, by taking advantage of the rapidly alternating periods of suction and compression taking place in the neighbouring halves of the crankcase, continuous circulation of oil, which separates out from the petrol mist on reaching the crankcase, is maintained in the Trojan engine.



The "hot foot"—an oil-purifying device—with one of the hexagonal plugs removed to show a helical spring filter. There are two filters, and they require cleaning only after some thousands of miles' running.

B20

Immediately underneath the crankcase is a casting known as the "hot foot," so called because it is fed with exhaust gases bypassed from the main exhaust pipe by means of a straight steel tube of small bore.



The silencer is easily dismantled by unscrewing the hexagonal nut whereby the cover plate at the forward end is held in position. It is recommended that the silencer be cleaned at least every 5,000 miles.

Oil passes in course of circulation through two filters situated in this, each one taking the form not of the conventional fine gauze, but of a small helical spring which is kept compressed by means of a large hexagonal plug. The main object of this "hot foot" is to expose the oil at one point in its circulation to a high temperature, thereby driving off traces of petrol that tend to dilute it.

Every three thousand miles or so the two hexagonal plugs should be removed, thus draining the crankcase. The helical springs that are then exposed must be removed and cleaned with a rag. After this the plugs should be replaced and screwed firmly home, with the springs in position, and 1 oz. of engine oil must then be added to each half of the crankcase through the small brass plug holes provided at the top of the crankcase for the purpose.

Decarbonizing, in the accepted sense of the word, is not called for on the Trojan car. The silencer, however, requires cleaning out every 5,000 miles or so. This is accomplished by unscrewing the small hexagonal nut which holds the forward cover plate in position. The entire silencer can then be removed and readily dismantled by drawing the rear tube straight out. In the event of gradual falling off in



power becoming apparent, the first thing to be done is to remove this cover, when improvement at once indicates a choked silencer.

The only other places where carbon may collect in troublesome quantities are on the gauzes situated immediately underneath the two transfer port covers. Each transfer port cover is held down by means of four hexagonal nuts and on the removal of the covers gauzes will be exposed. These can then be removed and scrubbed in paraffin with a stiff brush.

The innermost of these gauzes is subject to a process of slow disintegration, and should, for this reason, be renewed from time to time; but if this is not possible the order of the gauzes should be changed on reassembling, so as to bring a fresh gauze to the innermost position. In reassembling it is convenient to deal with the gauzes in pairs, sticking each pair into its containing ring by means of a little stiff grease. Care is needed to secure a really sound joint between the transfer port cover and the engine casting. The jointing gasket should be replaced with a new one if it is not in good condition.

Lubrication of all points of the chassis is straightforward, and full directions are given in the handbook. Except on earlier chassis, lubrication of most points is by grease gun. Stress is laid on the necessity for squirting two syringefuls of engine oil into the epicyclic gearbox every 1,000 miles and half a pint of engine oil into the reduction gearcase. The steering gear and spring rollers require attention at about the same intervals.

Brake adjustments are exceedingly simple and rarely required. The foot brake, which operates direct on a

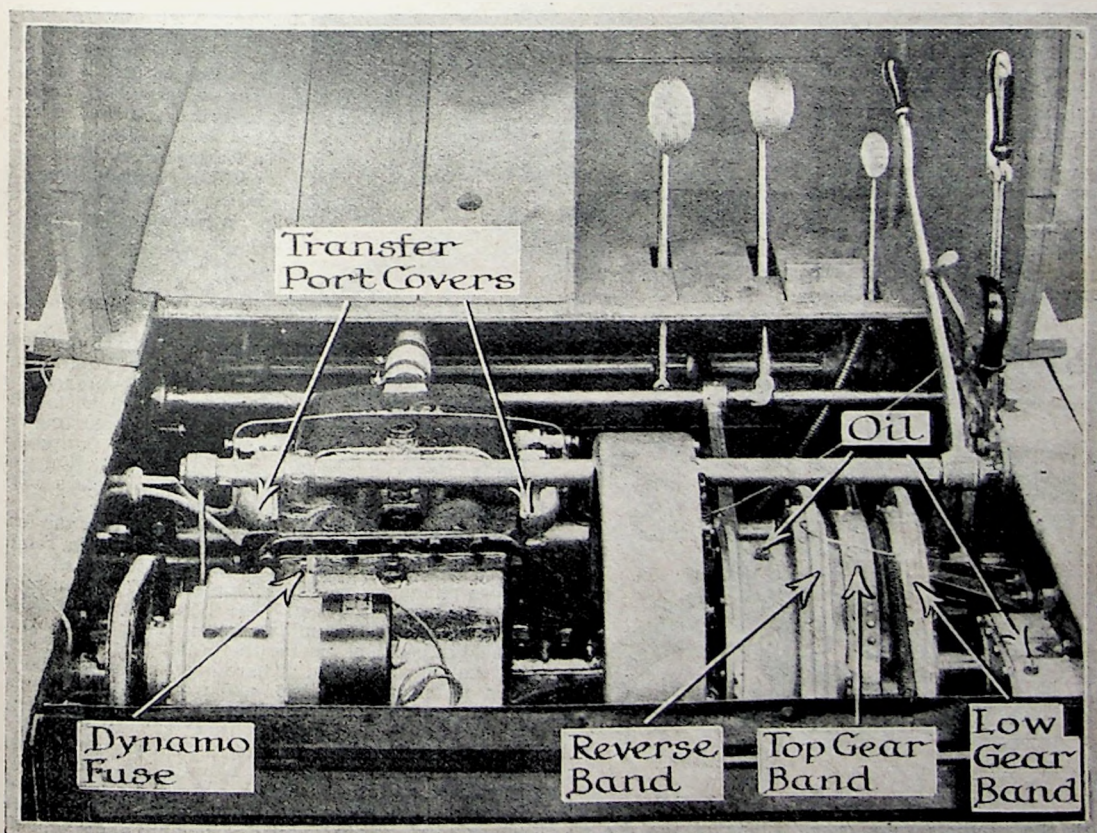
drum on the near side of the back axle, is taken up by means of the wing nut at the end of the operating rod.

Provision is also made for packing up the shoes by means of stock packing pieces, but this should be required only after many thousands of miles. To get at the operating cam the wheel and drum must, of course, be removed.

Adjustment of the hand brake, which works by means of an externally contracting shoe on a drum on the gearshaft, is by means of an eccentric bush situated on the inside of the chassis frame member. The bush is locked by means of a set-screw and must be turned until the brake just engages while the handle is in the first notch.

Adjustment of the transmission bands is rarely required, and simply effected. The top-gear drum is controlled by two bands, each one extending half-way around it. One of these is painted white for purposes of easy identification. Adjustment of these two bands is made by means of two square-headed screws situated in yokes, one at the end of each band. Excepting in cases of bad slipping and complete absence of anything approaching proper adjustment, one-quarter of one turn of each of these screws will effect the necessary tightening up. It is essential, of course, that the two screws should be turned exactly equal amounts or the work will not be shared evenly between the two bands, and slipping will result.

To check the tensioning of the bands, the gear lever should be put into top and the clutch pedal pulled back as far as it will go, when it will be possible to tell by the feel of the screws whether tightening is even. Too much tightening may cause slipping, and this will be



#### THE VITALS OF THE TROJAN.

The entire power unit, as well as much of the electrical and transmission gear of the Trojan, is exposed when the floorboards are lifted. Accessibility is a strong point. The photo clearly shows the two-stroke power unit on the left and the transmission bands on the right. The points identified are referred to in the text.



indicated by the refusal of the clutch pedal to return normally when the gear lever is put into top.

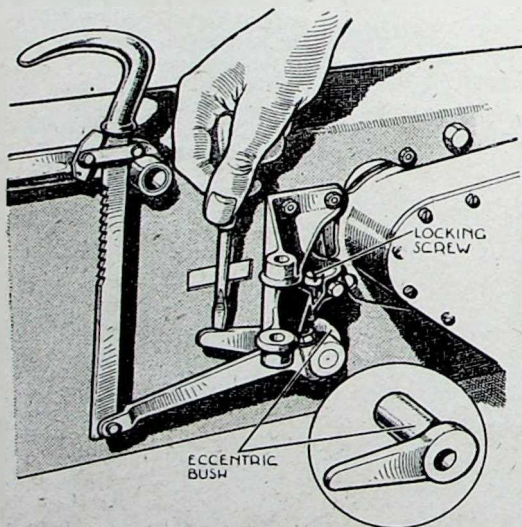
Low-speed and reverse bands, the latter of which is nearest to the engine, and the former the most remote from it, are adjusted by wing nuts. One half-turn should in all cases be ample to cure slip.

The driving chain will stretch somewhat after some thousands of miles' running, but its adjustment is a simple matter. The back axle is secured at each end to the springs by means of four bolts, and these must first be slacked off. The chain-adjusting tool, provided in the tool kit, must then be used to pull each end of the axle back an exactly equal amount. If in any doubt about the correct alignment, however, a check can be made by measuring from the end of each spring to its clip. Care must be taken not to get the chain too tight, or excessive wear is bound to take place; correct tension is when there is about 1 in. free movement at the centre of the chain.

No spring link is provided in the chain, so if it becomes necessary to remove it for any reason this is done by moving the axle forward to its full extent, so that the chain can be lifted off the sprocket and passed over the rear wheel. Normal lubrication of the chain is quite automatic, provision being made for small quantities of oil to leak out on to it from the reduction gearbox all the time the car is running.

Turning now to the electrical system, there is one point of outstanding importance, and that is the correct adjustment of the contacts. These are situated immediately behind the H.T. distributor, which is got at by removing the locker door that runs nearly the whole length of the step immediately above the near-side running board.

The distributor cover comes straight away on removing the spring clips by which it is held in position, and the distributor arm, which is then exposed, pulls straight off, thereby exposing the contacts. A gauge is provided in the tool kit to ensure getting precisely the correct gap—it is .015 in.—



with the contacts fully open. Filing of the contact pieces should be required very rarely, and on such occasions only a proper magneto file should be used—and that with discretion. In replacing the distributor arm care is needed to see that it is pushed fully home, with the pin engaging in the hole for its reception.

B22

Ignition timing is easily checked, as there is a line on the flywheel rim marked "A," which, when brought into line with the joint of the cylinder and crankcase castings, gives the correct full-advance position of pair of cylinders. There is no necessity to determine T.D.C., as has to be done with most engines. As is generally the case with battery ignition, there is no need to attempt to determine the precise instant of opening of the contacts—an observation that may lead

#### ACCESSIBLE ADJUSTMENTS.

(Above) How a top gear band is adjusted. (Centre) The contact breaker with cover and distributor arm removed. Coil ignition is used. (Below) The adjustment of the hand brake is by means of an eccentric bush held in position by a locking screw. The small projecting arm is turned by means of a screwdriver or other convenient tool.

to considerable error—as the ammeter gives the exact instant of opening.

To check ignition timing, then, turn the flywheel over by hand in its normal direction of rotation until the mark "A" on the flywheel rim approaches the uppermost position, in which it will be when immediately above the crankcase joint. The starting lever must be in the normal running (down) position and the ignition switched on. Now turn slowly and watch the ammeter. The needle should drop to zero exactly as the mark "A" is at the top position.

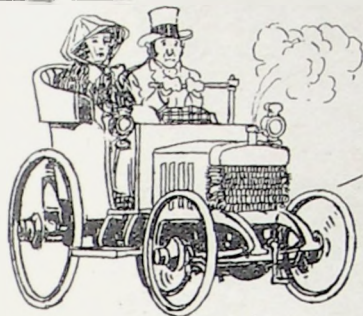
Adjustment, if needed, is made by altering the length of the rod whereby the contact breaker is rotated; there is a proper screw adjustment for this.

The remaining parts of the electrical system require only the usual attention. The dynamo belt is tightened by slacking off the nut whereby the dynamo bracket is held in position, moving the bracket back and screwing the nut up tightly. There are two fuses—one situated on the dynamo itself and working in the dynamo circuit only, and a main fuse, the primary object of which is to protect against "shorts." Blowing of the former results only in failure of the dynamo to charge, but if the latter blows the engine stops, lights are extinguished and the horn fails. A supply of spare wire is carried on both fuse mountings. Persistent fuse-blowing, of course, indicates trouble that should be investigated. The correct rate of charge is 6 amps. to 7 amps., but this may be safely increased in winter to 10 amps. if required; adjustment is made by moving the third brush on the dynamo in the direction of rotation of the armature to increase the output.

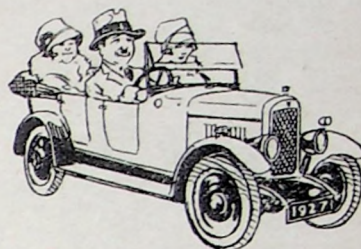


# LOOKING AHEAD.

SINCE, IN 30  
YEARS WE  
HAVE  
PROGRESSED  
FROM  
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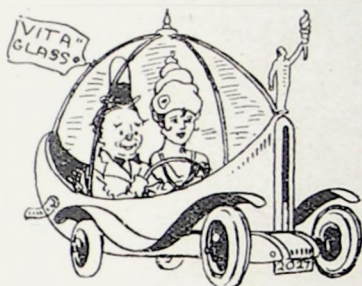


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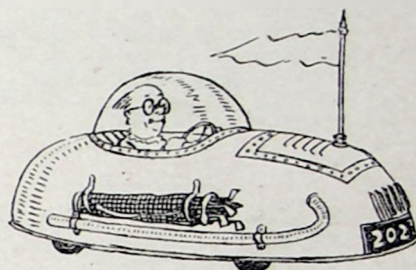


ONE WONDERS  
WHAT LIGHT CARS  
WILL LOOK LIKE  
IN A HUNDRED  
YEARS  
TIME.

PERHAPS

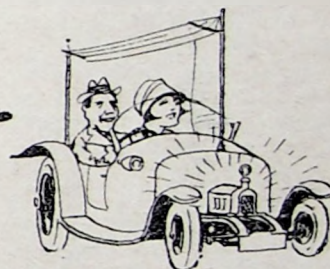
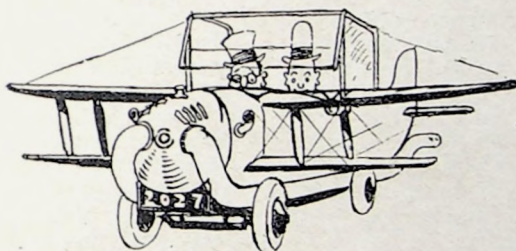


SOMETHING LIKE THIS

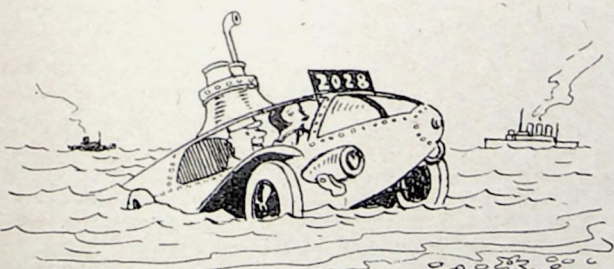


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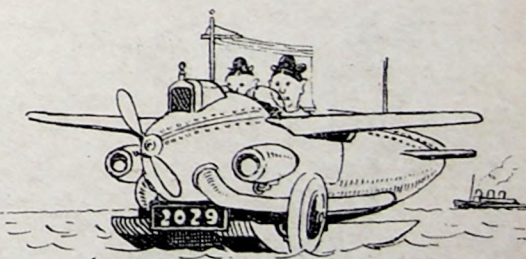
OR AGAIN.  
MAYBE  
OUR  
GRANDCHILDREN  
WILL SEE  
SOMETHING  
OF  
THIS  
KIND



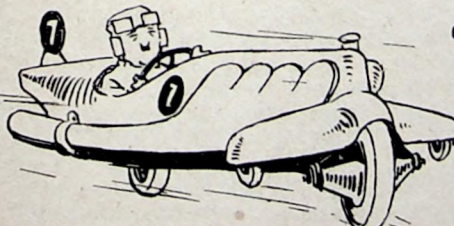
2½ H.P. 290 M.H. AEROCAR. — THE RADIUM ENGINED RADIOCAR!



THE 1½ LITRE SUBMERSO CAR.



THE SUBMAERO-RADIUM RUNABOUT!



THE GYROSCOPIC CYCLECAR.

BUT IT'S  
A COUPLE OF  
COTTER PINS  
TO A BRASS  
HADDOCK THAT  
THE 'NEW'  
MODELS FOR  
2027 WILL  
RESEMBLE—



GILBERT  
RUMBOLD  
1927.

An endeavour to settle once and for all one of the vexed questions of the moment.





# RICH MIXTURE

## LIGHT CAR COMMENT AND ADVICE

*By*  
**Focus.**

### *Melrose Abbey.*

**L**OVERS of Scott will have no difficulty in remembering the passage in which he makes reference to that delightful haunt for the seekers of the remains of former wonder, Melrose Abbey. He says:—

"If thou wouldst see fair Melrose aright,  
Go visit it by the pale moonlight."

And if you are within easy distance of Melrose, Roxburghshire, there is no reason why you should not visit it under these ideal conditions. Melrose is well worth a night trip, and the ruins are easily viewed from the road. What antiquarian can fail to be interested in the remains of a building which was destroyed as early as 1322—Dryburgh Abbey—where the immortal Scott was laid to rest, is hard by, and a visit will amply repay the tourist's time.

### *Easily Adjustable Seats.*

**M**ANUFACTURERS have done much for our comfort and convenience during the past two or three years, but at the risk of appearing ungrateful may I put in a plea for more easily adjustable driving seats? There are few four-seaters nowadays, whether open or closed, which have not adjustable front seats, but in most cases one has to get out of the car to move them forwards or backwards, a job which takes three or four minutes. This certainly makes it possible for any driver to obtain for himself the most comfortable position for average conditions; it does not, however, encourage him to adjust the seat three or four times in the course of a long journey as weather and road conditions change. The idea of a relationship existing between the seat position of a car and the weather may sound a trifle absurd. Those who think so should cast their minds back to their last long journey in variable weather.

### *Why They are Needed.*

**W**HEN the going was good through easy country they probably leaned back in a semi-reclining position with one hand lightly on the wheel and enjoyed the scenery; on coming to the

thick traffic of a town they sat rather more upright to bring themselves nearer the screen, where they could see their front-wing tips more easily, whilst when the sun disappeared and the windscreen wiper was busily swinging backwards and forwards during a shower they leaned well forward to obtain as wide a view as possible through the small semicircle of glass kept clear by the wiper.

In the first case a slightly more restful position would probably have been obtained with the seat slightly farther back; a little nearer the screen would have been more convenient in traffic, whilst during the rain the seat could with advantage have been placed so far forward as leg-room would allow. With a seat which could be moved in a trice without leaving the car it would certainly have been worth while to make the adjustment en route. I know of at least two cars—the Clyno and Singer Senior—where this is the case, and my experience with both of them made it clear that the refinement was one which is very much appreciated.

### *Automatic Wipers.*

**O**NE of the first automatic windscreen wipers to reach this country made its way on to a G.N. I was running in 1920. Since then I have used many kinds of automatic screen wiper of several different makes. Some have been reliable and some have not. The last year or two, however, I have found that all the well-known models are perfectly sound mechanically, and I think we may now depend upon it that if a reasonable price is paid one may be sure that, whatever kind of motive power is used, the squeegee arm will continue its patient back-and-forth journeys so long as the switch, tap or other gadget is twisted the right way.

### *Squeegee Faults.*

**B**UT this I find does not mean necessarily that the driver will be able to see clearly, for present-day squeegees impress me as being thoroughly unsatisfactory. If they press lightly against the glass they dither across it and leave



wet patches, whereas if they press heavily against it the rubber soon becomes misshapen and declines to wipe the glass clean.

It would be interesting to hear from readers who have experimented with different kinds of rubber squeegee, with a view, if possible, to discovering which is the most reliable pattern. The best results that I have had to date have been obtained by cutting down the rubber so that only about one-eighth of an inch protrudes from the metal blade. If the blade is then mounted fairly loosely on the operating arm reasonably good results are obtained, but the rubber soon perishes, and cutting down new blades with a razor is a ticklish job, frequently leading to new squeegees being spoiled.

#### *One Advantage of Old Cars.*

NO one will deny that the old cars were very uncomfortable when compared with modern productions, but they certainly had the advantage that, from the point of view of visibility, they were very easy to pilot through thick traffic. The driver occupied a "sit-up-and-beg" position, and was very near the front of the car, where he could obtain an excellent view of his front wings and the radiator. The result was that it was possible to slip through gaps without any doubt as to how much room there was left. Modern body lines have done away with all this. Longer bonnets have made the driving seat occupy a position a good deal farther back, whilst lower lines have made it far more difficult to judge just where the front of a car is going.

I am not suggesting that we should go back to the old high, uncomfortable bodies, but it does seem rather strange that as traffic has become thicker so, from one aspect, cars have become more difficult to handle. We must, I suppose, console ourselves with the thought that progress is seldom made without some sacrifice.

#### *A Trap for the Unwary.*

AN acquaintance of mine had a rather heated argument with a farmer recently. He is one of those men who believe in obtaining their rights and sticking up for the rights of others. He is fond of exploring by-lanes, and on the day in question took a road which was marked "Private." After a few hundred yards he was stopped by a farmer, who pointed out that it was a private road, but my friend insisted that the notice board was merely bluff and that the farmer, for his own convenience, wished to keep traffic out of the lane. In support of this argument he produced a map, and, pointing the road out to the farmer, remarked: "There you are; I knew I was right. The road's marked on the map and there must be a right of way." The farmer was firm, however, and, as he completely blocked the road by placing his pony and trap broadside on, my friend had nothing for it but to go back. On telling me of this he was quite crestfallen when I pointed out that the fact of a road being shown on the map is no evidence whatever of a right of way. In the margin of many maps, in fact, will be found a little note which reads: "The representation on this map of a road is no evidence of a right of way."

#### *The Villagers Spoofed.*

A FRIEND of mine who has been touring in a remote part of Britain relates an amusing story told him by a village rector who is himself a motorist. The parson had installed a wireless set, being the first in the district to do so, and in order to entertain the villagers he promised to give a wireless concert in the schools.

The day arrived, but on tuning in towards evening the rector discovered to his horror that something had gone disastrously wrong with the apparatus. Nothing daunted, he entered into a conspiracy with his son who was home from



**A CORNER  
OF DEVON.**

Typical and delightful is the village church of Mort Hoe, Devonshire. Even those who know nothing of architecture and see little in old buildings to interest them cannot help being charmed by the old churches of England.



college. A large packing case was procured, draped, and placed upon the platform. Flanking it on each side were large screens. On top of the case was placed the loud-speaker and other apparatus, with plenty of wire to make an imposing effect. The villagers assembled and duly heard a most excellent vocal and instrumental programme, a popular feature of which was the "announcing" of the various items.

The audience departed entirely satisfied, what time the rector's son released his cramped limbs from the packing case, where he had been industriously operating a gramophone!

### *A Treacherous Hill.*

**G**REAT care is needed when approaching the village of Riverhead (near Sevenoaks, on the London to Hastings road) from the Redhill direction on account of the very treacherous hill sloping down to a bottle-neck which opens out into the village square. The hill is very deceiving and appears quite harmless, but during the past six weeks it has been the cause of no fewer than five separate accidents.

The smooth tarred surface is bordered on one side by a wooden fence and on the other by a foot-way and a brick wall which gives way near the foot to the coping stones and iron railings of a house. Two of the accidents, one involving serious injury to a motorcyclist, have damaged the fence, the wall bears two large scars, and a fortnight ago the gateway, some railings and a considerable portion of the stonework belonging to the house were broken down by a private car. Although it looks innocent enough the hill should be treated with respect, especially when wet.

### *Hot and Cold.*

**T**HE plight of the drivers of last year's Delage Tracers was nothing to mine when recently I undertook to drive a friend's car from London to the Midlands. The Delage folk, it will be remembered, had their feet roasted; I endured torture

of the opposite extreme owing to water leaking through the bonnet (it rained heavens hard all the way), running back along the flat-topped tank and splashing drop by drop on my right foot, just above my shoe.

You may recall one of the terrors of the Inquisition wherein the victim was strapped to a wall, his head being clamped as in a vice and in such a position that a drop of water fell ever so often on to his temple. I experienced something of the same kind in that car! The hand throttle was out of commission and, as I was making the journey against the clock, I could not stop.

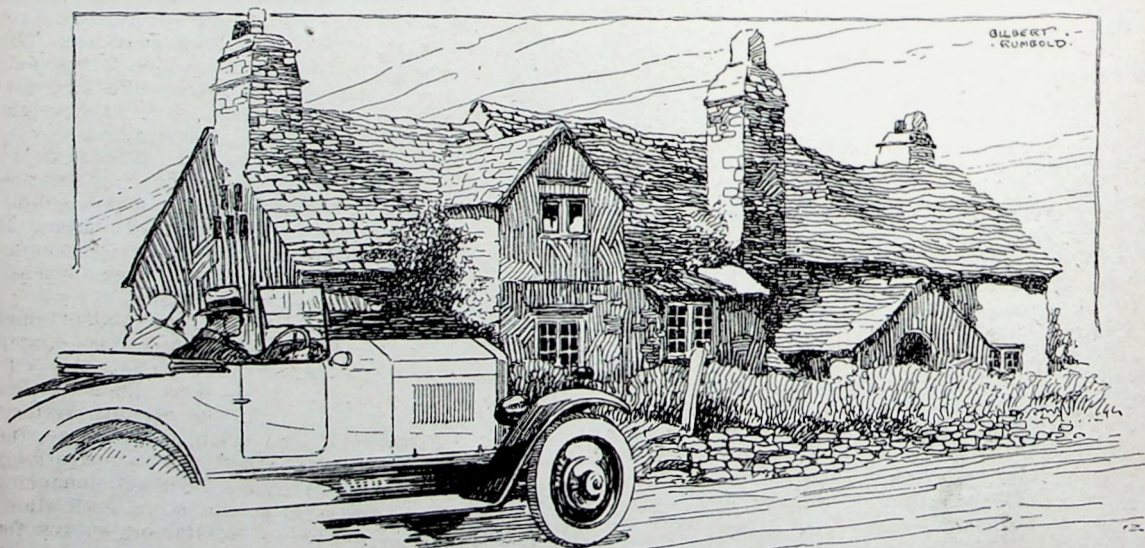
### *When Raising the Hood.*

**A**PPROACHING London one Sunday afternoon, when brilliant sunshine and showers kept alternating every hour or so, I could not help noticing the absolute lack of consideration or road sense of any kind shown by many drivers in the choice of places to stop when erecting the hood.

I am not going to say that light car drivers were the worst offenders—they were about on a par with all the others. I do feel, though, that a courteous and considerate driver had very just grounds for complaint. Ninety per cent. of drivers on noticing rain seemed to say to themselves: "Here is some rain, let's put up the hood. We'll do the job under those trees." The fact that the trees in question were right on a curve did not seem to worry any of them.

### *Stolen or Strayed?*

**H**ERE is a story for the truth of which I cannot vouch. A well-to-do young man, after luncheon quite well at his club, noticed, as he came down the steps to the street, that a policeman was standing with a notebook ready beside his car, which was parked against the kerb. The young man hailed a taxi and drove to his flat, rang up the police and reported that his car was stolen. An hour or two later it was handed back to him, and to this day he declares that the police have not discovered how easily they were hoaxed.



THE QUAINTEST  
POST OFFICE?

— In remote districts an antique cottage is often pressed into service as the local headquarters of the G.P.O. This picturesque example is at Tintagel, Cornwall.



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

COVENTRY: 6, Warwick Row.  
Phone: Coventry 4722.

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

### Abusing Front-wheel Brakes

IT seems a pity I should have even a shade of regret concerning the effect on driving manners of one of the most important of recent improvements in motorcars—namely, front-wheel brakes—but we think it is high time that a note of warning was sounded, for it is becoming increasingly obvious that many motorists are driving more with their brakes than their heads. The result is that, instead of adding to the safety of travel by road, four-wheel brakes are tending to increase its dangers—an altogether deplorable state of affairs.

\*The offenders are, as a rule, men and women of little experience, who rush in where old hands fear to tread, relying solely on the magical effect of their very efficient brakes to extricate them from any difficulties in which they may involve themselves. Their salvation is, as a rule, made possible only at the expense of the comfort and convenience of more level-headed folk who naturally resent such conduct very strongly, but have no other course than to act generously and unselfishly. In the hands of capable drivers four-wheel brakes are a boon and a blessing, and it would indeed be regrettable if the wisdom of fitting them were questioned because of their abuse by novices. We hope that if the cap fits any of our readers they will read, mark, learn and inwardly digest our remarks—which are offered in the friendliest but most earnest spirit.

### Magistrates and Women Drivers.

THE presiding magistrate at Doncaster is to be complimented on his gallantry, but, all the same, we view with mixed feelings his interpretation of the law. When a woman motoring offender appeared before him, he said, "Because of your sex we will fine you only 20s." Perhaps the worthy magistrate's remark was not intended to be taken too seriously; perhaps he would have inflicted a fine of a similar amount had the offender been a mere male; but his apparent leniency may lead other members of the fair sex to expect preferential treatment and to plead coquettishly that because of their sex their offences are not nearly so great.

Why, we ask in virtuous indignation as mere males, should a woman have the advantage?

"THE LIGHT CAR AND CYCLECAR" WAS FOUNDED IN 1912 TO CATER FOR THE NEEDS OF USERS AND POTENTIAL PURCHASERS OF LIGHT CARS AND CYCLECARS, AND IT HAS 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.

Conducted by  
EDMUND DANGERFIELD.

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Surely Oxford bags so closely resemble the modern skirt as to entitle their wearers to clemency, and even plus-fours—or some of the people one sees in them—ought to move any magistrate to tears! Women can tread just as hard on the "gas" as men, and there is really no excuse for them if they transgress; in fact, it would be in keeping with present-day tendencies if to man and not woman the quality of mercy were most generously extended.

As we remarked in our opening paragraph, the action of the presiding magistrate at Doncaster was gallant, but we feel sure that in the case of motoring offences there is no good reason for treating one sex with more or less clemency than the other. The type of woman, too, who drives a car is not likely to seek or desire privileges which are not extended to her masculine motoring companions.

### The Free-wheel Position.

WE give in this issue an article from the pen of a very able writer summing up the advantages and drawbacks of free-wheel transmission, and mentioning the several applications of the idea which have been tried and which show promise of proving to be practicable propositions. The various aspects of this subject, which is fascinating engineers and owner-drivers alike, are discussed in an impartial manner and with the weight of many years' experience of motor engineering behind them. *The Light Car and Cyclecar*, as we pointed out last week, believes that transmission systems providing a free overrun, and thus simplifying gear-changing to the point of making it literally child's play, improving petrol consumption and reducing wear and tear, show considerable promise of coming into wide use.

We have pointed out already that cyclists many years ago looked askance at the free-wheel simply because their brakes were not particularly efficient. Car designers have done likewise, but nowadays when most light car braking systems approach perfection, and when, in any case, the designing of efficient brakes is a comparatively easy task, there is no excuse for discountenancing free-wheel transmission on this score, even allowing that the provision of satisfactory means for locking the free wheel is not a comparatively easy task.



**T**HE attack upon the Chancellor's Road Fund raid came, as was expected, from every part of the House of Commons, and it was quite irrespective of party. No doubt the Conservative members used the less harsh terms to describe Mr. Churchill's appropriation for other purposes of money which was definitely levied for roads and roads alone, but their feelings were the same as those of others who did not hesitate to call a raid a raid and to denounce it root and branch.

The attack was opened by Sir Robert Sanders, a Conservative member, who was Minister of Agriculture in a previous Conservative Government. He complained bitterly of the hardships which are imposed upon the agricultural districts in having to bear so great a load of road costs caused by an immense volume of motor traffic. He claimed that the relief given from this burden was not nearly so great as it ought to be, obviously because the rural ratepayer is not receiving the full benefits of the Road Fund. The inevitable result is that the rural roads do not receive the amount of attention which they require.

#### Strong Attack from "L. G."

Then came a strong attack by Mr. Lloyd George. He was the begetter of the Road Fund, which he brought into existence when he was Chancellor of the Exchequer before the war, and no one knew better than he the promises that were made to the motorists when they were first required to pay this new impost. The Chancellor of the Exchequer to-day (he said) was taking away money from the Road Fund which had been allocated definitely by statute and by solemn promises in that House to the one purpose of road maintenance and improvement. Mr. Churchill had taken the wrong turning, and he was doing something which inflicted real damage upon the farming community and the business community and which arrested the development of

## THE WAY OUR MONEY GOES!

### How Mr. Churchill Attempted to Justify His Raid on the Road Fund.

road transport just at a stage when we were starting to be in the forefront.

Rather to the surprise of the House, Lieut.-Colonel Moore-Brabazon came to the rescue of the Chancellor of the Exchequer and defended his raid upon the Road Fund on the excuse that in a very difficult year Mr. Churchill had, perforce, to find his revenue somewhere. He proceeded, however, to elaborate a proposal which showed that he really shares the motorist's point of view. It was that the Road Fund, to which the motorist ought to pay in proportion to the amount of damage which he did to the roads, should be quite inviolable for all time to come. Over and above that, there ought to be a luxury tax on motorists which should go to the general revenue. He did not say whether he meant that the existing taxes on motorists should be increased; presumably he means that the payments which they now make to the Exchequer ought to be divided into two component parts.

Major George Davies pleaded with the Chancellor to make a much more generous contribution to the rural districts for the much-needed improvement of secondary roads. Mr. Bromley, a Labour member, suggested that it would be wise economy to straighten out the winding, twisting, straggling roads which are to be found in all parts of the country. These old roads, he said, not only take up too much of the surface of the countryside, but they present a danger to motorists.

Member after member, representing rural constituencies on the Government side of the House, protested against the fact that the Government were taking away money that was sorely needed for roads. The number and

urgency of these Labour member, Mr. [unclear] prompted a or, to say that if the House were allowed to vote according to its real inclinations, and if the Government Whips were not put on, the Chancellor's proposals would be defeated.

#### The Chancellor Explains.

Faced with this great mass of hostile criticism, the Chancellor of the Exchequer had to rely upon all his well-known keen-witted argument to get out of a tight corner. He declared that our roads were the best in the world, but he professed to see a danger of lopsided development in this country if the "road enthusiasts" were allowed to have everything their own way and no regard was had to the claims of railways. His real defence, however, as everybody expected, was the necessities of an abnormally difficult year. "It is quite true," he declared, "that 6d. on the Income Tax, producing over £30,000,000, would have placed me beyond the need of proposing any of these luxury taxes such as betting, or making these inroads, which I regret on general grounds, into the Road Fund."

The Chancellor closed his speech with a statement that "it is not the intention of the Government to make further inroads upon the yield of the Motor Licence Duties in the lifetime of the present Parliament." The increase in the amount of these duties, whatever it may be, will be devoted continuously to the development of the roads, rural and urban, according to the best possible scheme. With this declaration and promise the House had to be content.

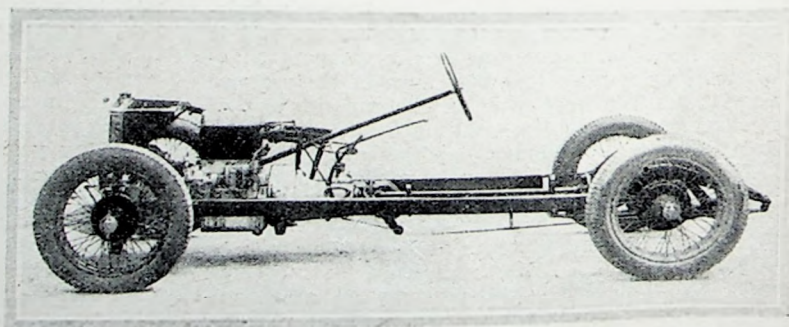
## NEW D'YRSAN FOUR-WHEELER

TO MAKE ITS DEBUT IN  
THE FLORIO CUP RACE.

**A**N interesting newcomer in the form of a d'Yrsan four-wheeler will make its debut at the Florio Cup race in Brittany on Sunday. We understand that Messrs. d'Yrsan have no intention of discontinuing the manufacture of the three-wheeler, which has earned considerable popularity in France as a sporting runabout.

The new model has been produced to meet the wishes of customers who desire greater body space with closed or open coachwork. The front-suspension system, which is a feature of the three-wheeler, is retained in the new car; but, if specially ordered, a Perrot front axle with Perrot brakes can be supplied. In the latter case the axle is mounted on half-elliptics.

The frame is light but substantial, with a very gradual spread of the side  
B28



**A CONVINCING — The chassis of the racing d'Yrsan which will run at  
LITTLE JOB. Saint Brieuc on Sunday.**

members from front to rear. The banjo-type full-floating rear axle is suspended on flat springs, the master leaf having an inverse camber which is straightened out by the load.

Straight bevel pinions are employed in the racing car, but the production model is fitted with Gleason cut spiral gearing.

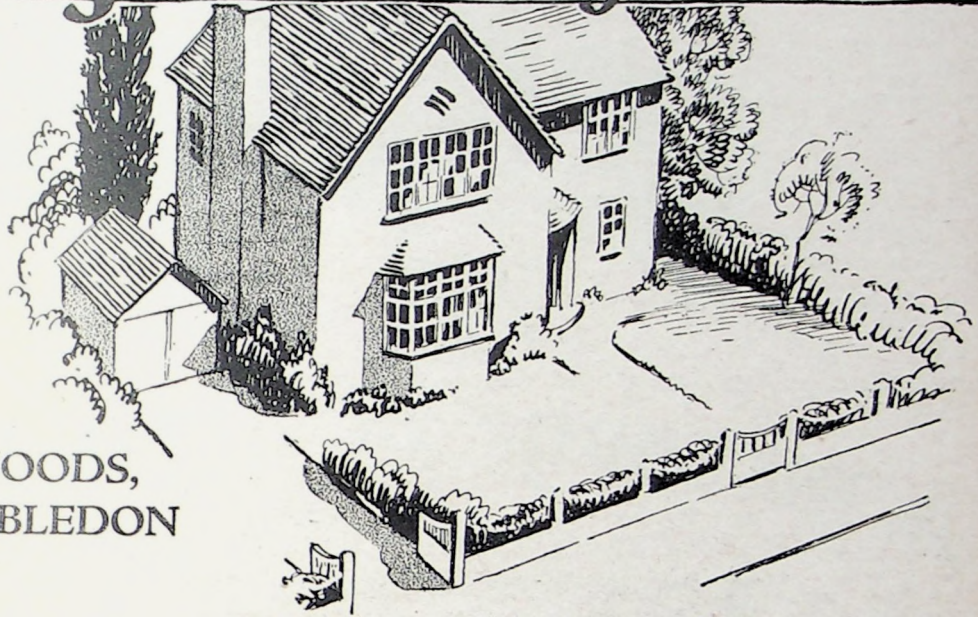
The power unit is an 1,100 c.c. overhead-valve Ruby engine and a three-

speed gearbox is used. Worm and worm-wheel steering is employed and an exceptionally good steering lock is given. The weight of the chassis is about 3½ cwt. Inquiries with regard to the d'Yrsan four-wheeler should be addressed to the d'Yrsan Co., 111, Quai d'Asnières, Asnières, Seine, France.

The three-wheeled d'Yrsan is handled in this country by Metro Motors, 45, Newman Street, London.



# TROJAN *happy families*



THE WOODS,  
of WIMBLEDON

THERE are no wistful faces looking out of windows—in fact, now, at 6.30 on a week-day evening, we doubt whether anyone would be in. They are all out enjoying the countryside air in their Trojan—over the hills and far away.

Since the Trojan came, a new mode of living has arisen; and this with no increase in the family income. They still live on £485 per annum, but the word 'live' has now taken a new meaning. Mrs. William Wood is a different woman, Mr. Wood a different man. They really enjoy their lives now, and all for 2½d. per mile inclusive of every possible overhead cost.

Mr. Wood is an accountant by profession, and knows these figures are true—and for the first 5000 miles he has, like every Trojan owner, the makers' signed undertaking that beyond the usual running cost for petrol, oil and tyres, his Trojan will not cost him a single penny for maintenance.

PRICES FROM  
**£ 1 2 5**

*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.*

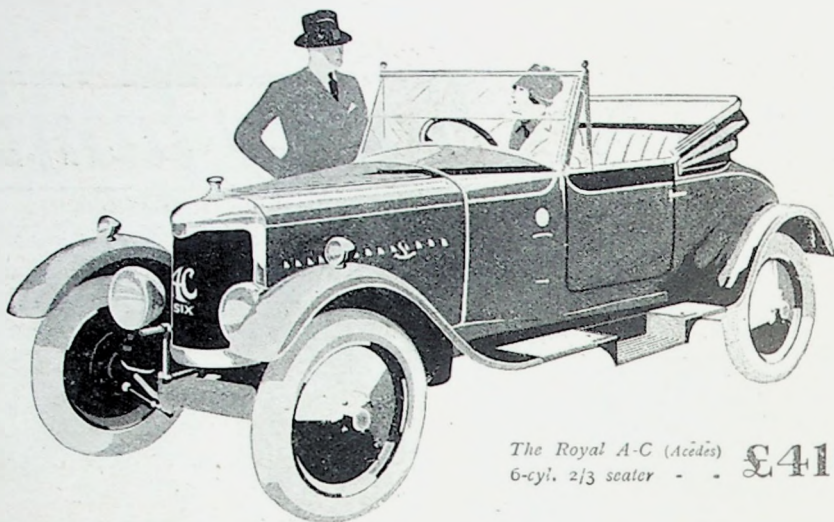
*This is Mr. Wood's Trojan*

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.

B29





The Royal A-C (Acédès) £410\*  
6-cyl. 2 2/3 seater

## A message of importance

**I** BOUGHT the A-C business for £135,000 because I believe in the car. I have also established on behalf of A-C users a Service Depot, which is one hundred per cent. efficient, and the owner's interest will always be mine. Personal attention will be given, and I intend to make this car to an ideal and not a price. I will honour the three years' guarantee of the old Company and will spare no effort to improve the A-C (Acédès) Car and give owners a service worthy of this motor carriage, which has proved cheaper to run than any other of similar road performance and carrying capacity.

### UNBIASED TESTIMONY.

"... For some considerable time now my conscience has been goading me to express my satisfaction with the 6-cyl. A-C which I purchased early in 1925. Up to date, I have completed 17,000 miles and my repairs amount to two copper-cabestos exhaust washers, two water-pump washers, one burst cover and one puncture.

I have frequently driven the car over 200 miles, and about three weeks ago I completed a journey from Broadstairs to Derby and back in the day, a distance of 433 miles, without feeling any discomfort whatever. My puncture and burst are the only involuntary stops that I have ever had.

Trusting that the A-C meets with all the success that it deserves.

H. B. FITZ HERBERT,  
Kingsgate.

June 27, 1927. Broadstairs.

A-C (ACÉDÈS) CARS, LIMITED,  
THAMES DITTON, SURREY, ENGLAND.

Telephone: KINGSTON 3340 (6 lines).

★The "Book of the A-C Car," containing full particulars of all models, will be gladly forwarded upon request.

ACÉDÈS



Full range of A-C (Acédès) Cars at 55-56, PALL MALL, LONDON, S.W.1,  
110, Bold St., Liverpool, 283-4, Broad St., Birmingham, 13-15, Peter St., Manchester



## CYCLECAR COMMENTS.

By SHACKLEPIN.

THREE-WHEELER RACING—MR.  
E. B. WARE'S OPINIONS REGARD-  
ING TYRES—PUNCTURE IMMUN-  
ITY—AN UNUSUAL EXPERIENCE.

IT was evident from the correspondence columns last week that my suggestion regarding three-wheeler racing was likely to prove popular. This week a further selection of opinions appears, and it is encouraging to note that the writers are all in favour of the scheme. The letter from Mr. H. George Morgan is very interesting. There seems to be good reason for hoping, therefore, that we shall have the pleasure of seeing three-wheeler racing in full swing before very long.

The article entitled "Where the Three-wheeler Scores," which appeared in last week's issue, must have interested a very large number of my readers. The writer—a friend of mine—is a keen competition man, sometimes as a driver and sometimes as a passenger, but always in a three-wheeler.

That his knowledge of, and interest in, this type of cyclecar is very real will be gathered from his article and from his letter in favour of racing which also appeared last week; the reference which he made to accidents on the track provides much food for thought.

In my long experience I can recall only one serious accident to a three-wheeler on the track and that, bad as it was, did not end fatally—which is more than can be said for many four-wheeler and motorcycle accidents. One may be sure, too, that any road accident in which a three-wheeler figured would have received a full measure of attention from the daily Press. From this we may infer, quite reasonably, that three-wheelers very seldom become involved in road mishaps.

Reverting to Mr. E. B. Ware's accident, which occurred during the J.C.C. 200-Mile Race of 1924, the cause of it, I understand, was the failure of the rear tyre—a mishap which occurs even with the best racing cars, regardless of the number of wheels.

I have had many chats with Mr. Ware since that time, and only last

week he told me that in his opinion three-wheelers are singularly free from tyre trouble. He added that he had experienced many tyre bursts at speed during his long career as a race and competition driver in three-wheelers, but none of them, except the last, had had serious consequences.

This immunity from tyre trouble is, indeed, a feature of three-wheelers, and for some inexplicable reason the rear tyre punctures even less frequently than those in front. One of the first objections raised by motorists with no experience of three-wheelers is that few of them are fitted with detachable wheels and, therefore, that a puncture must be mended there and then—possibly on a rainy night.

This in itself is bad enough, say those who are prejudiced, but it is made worse by the fact that the tyres are surrounded by forks, chains and other obstructions to easy tube manipulation. This, of course, is true only of the rear wheel; the front wheels could hardly be more handily placed, even if they were on a bench.

Personally, however, I have never found any trouble in getting at the rear tube, upon the rare occasions when I have suffered a puncture with any of the three-wheelers I have owned. Incidentally, I do not believe that I have repaired more than five rear-tyre punctures since the war—and I think my yearly mileage is greater than that of most three-wheeler owners.

In these days of semi-balloon tyres I suggest that the puncture boggy should be buried along with that other played-out standby of the prejudiced—the skid danger.

In this connection I remember a very amusing experience which I had about eight years ago. A friend of mine bought a second-hand Grand Prix Morgan and, with a desire for super comfort, he had it fitted, after a week or two of perfectly satisfactory ownership, with very large

section tyres. No sooner was this done than he called upon me in dire distress and complained that the machine was suffering intermittently from inconceivably severe wheel wobble, whilst its skidding propensities begged description.

He attributed all these troubles to the new tyres, and certainly it seemed that they were the culprits, as I was assured that nothing else had been altered; but to convince myself that my friend was not exaggerating I took a run in the Morgan.

For perhaps half a mile all went well, then such alarming wheel wobble began that driving became practically impossible; even at a walking pace the steering wheel kicked alarmingly. When we arrived home again I set about a thorough examination of everything that might cause the trouble.

The front wheels and steering mechanism proving to be above suspicion I turned my attention to the rear wheel, and it was not long before I discovered what was wrong.

The rear wheel spindle was very badly bent, in opposite directions, on each side of the hub; in addition, when the wheel had been replaced after fitting the new tyre the spindle nuts had not been done up tightly. The result of this was that sometimes the spindle locked in the bearings and rotated in the forks.

Being so badly bent, naturally it caused the wheel to wobble violently and the motion was transmitted to the front wheels, with the unpleasant results that I have detailed. When the spindle behaved normally the wheel ran in a true plane but, of course, it was out of track or leaning over according to the position in which the bent spindle came to rest. Needless to say, the fitting of a new spindle and new bearings entirely cured the trouble and my friend derived full benefit from his large tyres without the need for strapping himself into the driving seat!





## WITH A SMALL CAR IN GREAT SPACES.

FROM LONDON TO THE HIGHLANDS AND BACK IN A 9-20 H.P.  
HUMBER—CROSSING CAIRN O' MOUNT AND THE DEVIL'S  
ELBOW—INTERESTING COMPARISONS WITH THE BEHAVIOUR  
OVER THE SAME GROUND OF MUCH LARGER CARS.

**T**HERE are times when the most sedate drivers feel the desire to make the miles fly swiftly by, and one of the arguments put forward by those who adversely criticise the light car as a practical proposition for any kind of service is that it has not the speed for these moods; if it has, they say, it makes too much fuss in attaining these speeds, or it has not the stamina to sustain them for long.

To most people the periods of leisure for touring are strictly limited in number and duration. If the chosen week-end or holiday touring ground is far afield, there will be long distances of comparatively uninteresting trunk roads to cover en route, and every consideration will call for a high average over this part of the tour.

At certain seasons it falls to my lot to make for the Highlands from London. I have done the journey in all grades of medium and large car, but seldom with greater ease and comfort than recently, when the engine in front of me disposed of but 1,057 c.c.

When I acquired a 9-20 h.p. Humber early in May I did not seriously think of asking it to do this journey; but the summons to the North came earlier than I expected and there was no alternative. With literally no more preparation than replenishing with petrol, oil and water, I set out.

The car had not yet done a thousand miles, and I have a theory that the higher the grade of one's engine the more carefully it deserves to be run in. So to while away the tedium of a compulsory maximum of 30 m.p.h. I hit upon the idea of start-

ing with an all-night spell. For various reasons—I am convinced that mere optical illusion is the chief of them—a car appears to travel much faster during the hours of darkness; but the practical effect of this is that one is content with a lower actual running speed.

By daybreak I had brought the total mileage up to the magic four

### IN HIGHLAND AND LOWLAND.

(1) A peep at Loch Earn from the south shore road. (2) One side of a famous test hill. The approach to Cairn o' Mount (Aberdeenshire) from the north. (3) A glimpse of Aberdeen itself—the City of Granite. (4) A typical Lowland pass which involves miles of collar-work in second gear.

figures that meant freedom from restraint. It was then that the Humber gave me the first pleasant surprise. I knew that it was not exceptionally fast, 47 m.p.h. or so being its reputed



maximum, but settling down at first to 37 m.p.h. for 100 miles, then 40 m.p.h., I soon found that one lost very little on the swings of mere speed and that one more than gained on the roundabouts of refinement and comfort.

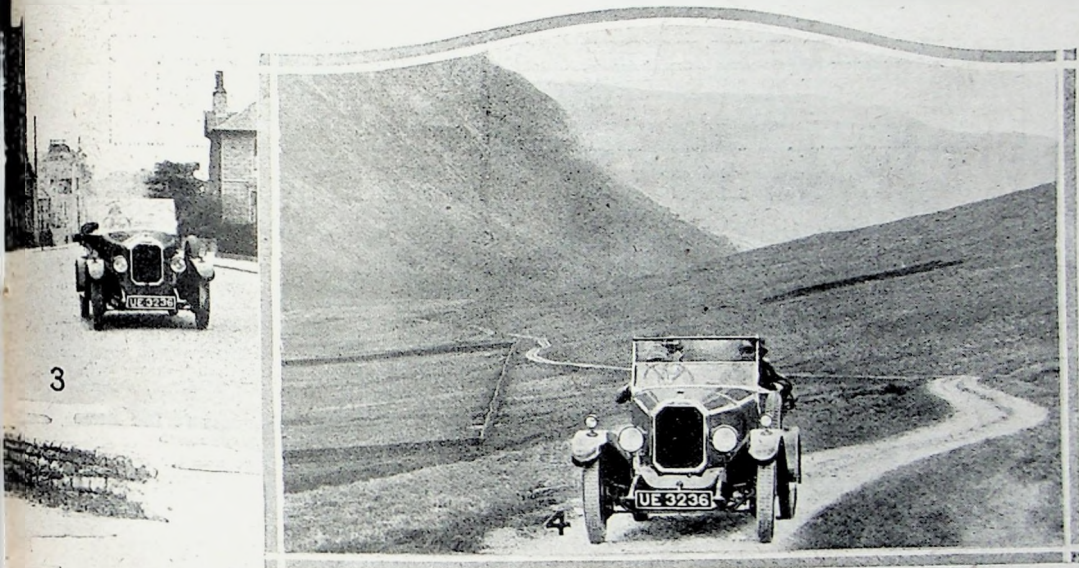
The seating position in this car is ideal and the springing and general comfort at fast cruising speed are all that could be desired. It has a dignified way of getting one along that is very reminiscent of the senior members of this fine British stable. The miles passed pleasantly, and I found that gradually I was increasing my speed well beyond the "40" mark.

June and July are ideal months for touring, especially in a country of great spaces and "big" views, such as Scotland. Usually there is an ample meed of sunshine without oppressive heat,

one blesses the extreme handiness and manoeuvrability of a light car like the Humber.

Then came a run to the Highlands of Aberdeenshire, including the crossing of Cairn o' Mount and later the Devil's Elbow, which, incidentally, has been greatly improved on both sides of the climb.

On two occasions only the Humber boiled. It has no fan or water pump, cooling being by thermo-siphon alone. Consequently, when there is a strong following wind, boiling is almost inevitable if the hill is a long one—and both the climbs mentioned are over three miles in length; but there was no lack of power, and the little car pulled sturdily all the way. On the return Loch Earn and the Trossachs were visited, with a final run via Fintry, over the Campsie Hills, to Lennox-



and enough foliage to clothe the trees without altogether obscuring the view—fresh foliage, too, devoid of the dusty, second-hand look that comes in August.

First a week was spent in the Lowlands, in the Kirkcubbin corner of Dumfriesshire, whence many day trips were taken. A feature of Lowland touring is the number of long passes that have to be negotiated, in whatever direction one chooses. Deceptive to the eye, they are usually much steeper than they look, and form a gruelling test for a car. There were rough roads in plenty, too, as the London-Edinburgh competitors discovered this year when they took the new diversion via St. Mary's Loch—one of the districts, incidentally, which I visited a few days earlier in the surprising little Humber.

And there were narrow roads. I have a nose for out-of-the-way spots, an insatiable craving for seeing what is over the brow of a hill, a craving that takes me plunging up uncharted by-lanes which invariably turn out to be only culs-de-sac. To extricate oneself means either reversing the whole way or turning in a space that would baffle a London taxicab. It is in such predicaments that

town and Glasgow, a by-road which deserves to be better known by motorists engaged in serious touring in the north.

It is interesting to compare the performance of the car on this tour with that of a larger car, a typical six-cylinder of 20 h.p., such as I have twice used on a similar tour.

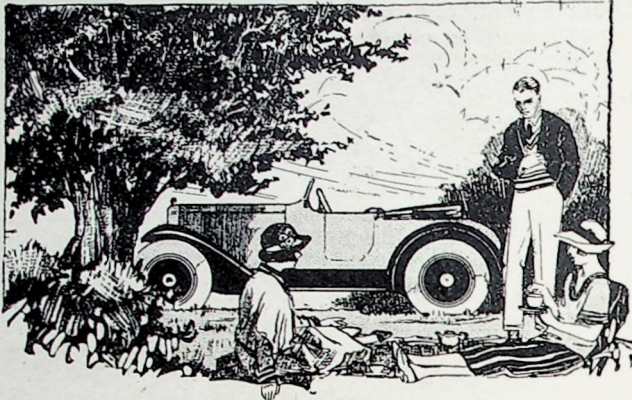
The large car was capable of an average of 35 to 36 m.p.h., which, of course, means cruising at 45 m.p.h. or more, with occasional bursts at a much higher figure.

On the return journey south this time I had no hesitation in letting the little Humber out to its fastest, comfortable cruising speed, which was an effortless 38-40 m.p.h. From 10 a.m. to 8.30 p.m. on the one day 263 miles were covered at an average (in running time) of just over 30 m.p.h. This is within 2 m.p.h. of what I personally found comfortable in the heavier vehicles; the difference on the total day's run works out at less than 20 miles. That alone is a striking indication of the powers of a modern light car as a conveyance for serious touring over long distances; in fact, the whole trip was a striking vindication of the claims made for small four-cylinder machines.

W.M.E.

B33





## 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.

### WHY CHARGE FOR DELIVERY? Pros and Cons of Selling Cars Carriage Paid.

#### If a Piano—

One morning, a few years ago, I walked into the show-rooms of a big firm of musical instrument makers, and after occupying about 40 minutes of the time of a really experienced salesman-musician I selected

#### —Why not a Car?

a piano—one of the heavy type with iron frame; and a good, substantial case. I paid cash, the amount representing the exact figure given in the firm's list and also plainly "carded" on the instrument itself. At 5.30 p.m. on the following day the piano was unshipped from a motor lorry outside my front door and four stalwarts transferred it to my drawing room. I live 15 miles from the musical emporium to which I have alluded, and the only delivery charge I paid was a tip of half-a-crown to the foreman of the gang of men. Further comment is, surely, unnecessary?

INDIGNANT.

#### The "Ex Works" System Upheld.

I have followed with interest the correspondence in your columns on the subject of delivery charges, and whilst I admit that this "extra" often causes annoyance to buyers,

#### Far Fairer to Buyers.

I am in favour of the system for a reason which I have not yet seen put forward. Manufacturers have got to make a living, and the price of a car is therefore made up of the actual cost of production, which we will call A, and a certain percentage of profit (B). Thus the price "ex works" is A + B, and each customer pays for his car being collected. The average cost of delivery can be denoted as C. Thus, the total cost of the car to a buyer who lives at an average distance from the works is A + B + C. If manufacturers were to decide to include carriage, the price would have to be increased—unless profits were cut, and with the present keen competition I do not think that this can be done—and the increase would be C. This simply means that the new price would be the "ex works" figure (A + B) with the addition of C—in other words, A + B + C, which is exactly what the average buyer pays now. So far there appears to be no advantage to the buyer in either the "ex works" or the carriage-paid system. Where the advantage comes in is that the former system is the fairer, for each buyer pays according to the distance his car has to be sent. If cars were sold carriage paid the manufacturer would have to add the average cost of delivery to the price of each car, and this is obviously unfair; it would simply mean that a buyer living next door to the works would have to contribute to the cost of sending a car to a buyer living 200 miles away.

What many of your readers do not seem to realize is

B34

that car manufacturers are business people and cannot afford to give things away. If cars are to be delivered carriage paid the price must be increased. It is just the same with any other articles one buys, except that in most cases the seller adds the cost of delivery to the price and says nothing about it. Car manufacturers, on the other hand, are honest and quote their prices "ex works."

H. R. OXFORD.

#### "Rodeo" Returns to the Attack.

I am pleased that my letter on the subject of delivery charges has created something of a "flutter in the dovecots," and I appreciate the replies of Messrs. J. F. Ireland and R. M. Vivian. May I tell a little

#### "An Unwarranted Imposition."

story? During the Great War a battalion was "lost," and an inquiry was held. The colonel blamed the adjutant, the adjutant blamed the captain, the captain blamed the sergeant-major, and so on and so on, until finally poor old Private Nobbs was court-martialled. The letters of Messrs. Ireland and Vivian remind me of that story. They blame the dealers for the "delivery charges" by talking about "rebates." I suppose the dealers would blame their managers, the managers the typists, and so on and so on until eventually the customer would get the blame for even wanting a car. However, be that as it may, the customer is the one who gets "court-martialled"; in other words, he pays. Surely to introduce the question of a rebate is merely in the nature of drawing a red herring across the trail.

Some years ago I was in a certain town and entered a café. The tariff said, "Roll and butter and cup of tea, 6d." I ordered this. What was my surprise to get a bill for 9d.? I was told the additional 3d. was for "service." Now, is not this a parallel case to the "delivery charge" system? I have looked quickly through the pages of last week's issue of *The Light Car and Cyclecar*, and I find only one advertisement (although there may be others) which states the price of the car "at works." The last two words are in small type. This means that practically every advertisement is incorrect to the extent that the purchaser cannot and does not obtain his car at the advertised price.

It would be interesting to learn how many new owners have had a shock on finding that, having carefully saved the price of a new car of their fancy, they find themselves called upon to pay an "extra" of two or three pounds for delivery. I still contend that the motoring public are entitled to know exactly how much their cars will cost them at their doors.





# IS IT ?

That car you want—is it one of the proved well-known makes—one of the following?—

**ALVIS AUSTIN SWIFT ROVER LEA-FRANCIS**  
**CITROEN SINGER WOLSELEY FIAT**  
**OR**

a guaranteed used one, of which we have the finest selection in London. They include all the well-known makes at prices from £50 upwards.

# IT IS !

If it is one of the above cars, then it is Henlys you must get it from. Altogether we have 200 cars in stock.

Our unique terms financed by ourselves including "No Deposit" are the finest yet introduced in this country. We definitely give the highest prices for cars in exchange, and our Service-after-Purchase is unequalled.

May we send you full particulars, or will you call and see us ?

# HENLYS

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





# Quality

**Q**UALITY should be your sole quest in all that affects the efficiency of your car or motorcycle. Whether you buy Lubricant in Tins or from the Pump, one thing alone matters—QUALITY.

## Surbiton M.C. Brooklands Meeting

July 2nd, 1927.

### 50 Miles Race

- |                       |                              |
|-----------------------|------------------------------|
| <b>1<sup>st</sup></b> | Mr. R. F. Oates<br>O.M.      |
| <b>2<sup>nd</sup></b> | Mr. G. Newman<br>SALMON.     |
| <b>3<sup>rd</sup></b> | Mrs. W. B. Scott<br>BUGATTI. |

—also four other  
races won on  
**CASTROL!**

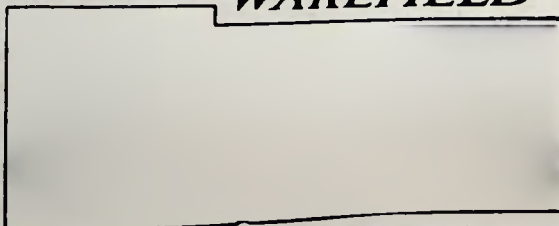
C. C. WAKEFIELD  
& CO., LTD.,  
All-British Firm,  
Specialists in Motor Lubrication:  
Wakefield House, Cheapside,  
LONDON, E.C.2.

The quality of Wakefield CASTROL Motor Oil has always been maintained at the highest level—and always will be. There are several grades, differing only in viscosity or characteristics; the same irreproachable quality links all.

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

Although an Aristocrat, Wakefield CASTROL will mix with other oils; but naturally for 100% efficiency you must use 100% CASTROL. Try CASTROL to-day and let your engine decide! You will soon realise why over 200 Leading Motor Manufacturers recommend—

## WAKEFIELD



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



## OUR READERS' OPINIONS (contd.).

I know something of the profits of both manufacturers and dealers, and I do not hesitate to say that with most cars, the profits are such as would cover any small cost of delivery and still leave a fair margin. If not, why can some dealers afford to deliver their cars free, notwithstanding rules and regulations to the contrary? The system is a pernicious method of getting not only the "pound of flesh," but the blood as well.

During the course of a year, our grocer delivers about £200 worth of goods to my door, making two journeys of 12 miles each week, or well over 1,200 miles per year. His prices are "list" prices, and all expenses in getting the goods from the manufacturers to my door are "overhead charges." He charges nothing for "delivery." Of course, I anticipate someone saying, "He delivers more than 'Rodeo's' orders in his 1,200 miles," but that is quite beside the point. However much or however little he delivers, his charge is nil, and his prices are the same as those of similar grocers in other districts nearer to or farther from the place of origin of the commodities he sells. Motor manufacturers and dealers could do the same if they would. I have a good many motoring friends and they all

agree with me that "delivery charges" is merely another name for "squeezing the customer."

Regarding the last paragraph of Mr. Vivian's letter, re the difficulty of including licences and so forth, may I refer him to an advertisement which appears on page 2 of the cover of your issue dated July 8th? Two cars are there advertised. In respect of one it is stated, "You can drive a car away fully taxed and insured." The other states, "Taxed and Insured." There are others. Where is the difficulty?

With respect to the "red herring" aforementioned, whilst the manufacturers and dealers are squabbling about their rebates, the customer pays and pays and pays again. There is too much of the "I'm-doing-you-a-favour-by-getting-the-car" attitude. It is the customer who does the dealer a favour by buying the car through him, and who does the manufacturer a favour by buying his car instead of another make. Should the man who pays the piper call the tune?

I am sure that by opening your columns to the expression of your readers' views you are doing them a service, and I trust you will invite further opinion on the subject, for I am quite sure the vast majority of motorists resent this, what I will only mildly describe as an unwarranted imposition. RODEO.

## A Grand Prix for Cyclecars—Why Not?

## International 200-mile Race Wanted.

I was most interested in the letter of "Grand Prix" recently published in your journal. I am in entire agreement with him, concerning an international 200-mile race for three and four-wheelers running side by side, but before we can make any headway we must get some such live organization as the J.C.C. to take up this class. If there is no worthy body who will take up the cause it is surely high time one was immediately formed. Perhaps "Grand Prix" would help us: there is ample support forthcoming, I am sure. DUB-A-DUB.



Many farmers are now selling some of their produce by the roadside to avoid carriage and market charges. A Clyno owner is here seen buying strawberries on the Dover road.

## Who Will Take the Lead?

I have read with great interest the correspondence in your columns aroused by "Shacklepin's" article on cyclecar racing, and by "Grand Prix's" reply. Mr. V. A. Cation, as usual, hits the nail on the head, although a point I should like to see stressed, has been rather neglected, namely, that such a race should include all three and four-wheeled cyclecars under 5 cwt. and under 1,100 c.c.

It is clear from the correspondence that interest in the scheme is considerable, while several entries seem already assured. May I propose that someone takes the first steps towards the realization of our hopes, by convening a committee of ways and means to go into the practical aspect of the matter without delay? There are already such people to choose from as Mr. Norman (Morgan Club), Mr.

Pilling (A.-C.U.), Mr. V. A. Cation, Speedman (whose suggestion of a new club to look after cyclecars is worthy of attention) and last, but decidedly not least, the two authors of the scheme, "Shacklepin" and "Grand Prix." One feels that, in addition, Messrs. Beart, Hall, Totter, R. A. Martin and Vidler might be induced to serve. Personally, I should be very willing to serve if needed, and to assist in every way. One might, perhaps, be of use in calling meetings, bringing in desirable members, and so forth.

Should the race become a concrete fact, I shall be very pleased to give a trophy of humble dimensions for one of the classes. Of course, I have an axe to grind, but it is a perfectly clean axe, and solely dependent on my keenness for cyclecars and for the racing that will do so much for them. SYDNEY S. WILLIAMS,  
METRO MOTORS.

## The Difficulty of Organization.

I am deeply interested in the correspondence on cyclecar racing, and although I am (alas!) too hard up to enter such a race, the early morning of the great race will find me glued to the railings opposite the

A "Real Race" Fork. One point worries me; whilst I quite agree that the Morgan Club is worthy of all support from three-wheeler owners, surely no "one-make" club should be entrusted with the organization of what really ought to be an international Grand Prix? By all means let the Morgan Club organize races, and good luck to them, but let us have a real race that will do something to improve the breed, and if the J.C.C. won't do it, then let someone follow "Speedman's" idea and organize a new body that will. MARY LUNNON.

## Mr. H. George Morgan's Views.

May I make a few comments on the correspondence which has followed "Grand Prix's" interesting letter? "Ohio" (obviously U.S.A. and proud of it!) observes that something is needed to encourage small car design in England. "You English designers have no git up and git about you," he writes. If the "Englisher" is behind the times, where is the American? I cannot remember any Yankee light car which makes one ashamed of our English productions. Is any American three-wheeler prepared to challenge the Morgan?

The hon. secretary of the Northern Centre A.-C.U. considers that "three-wheeler design is most backward in this country." A secretary of the A.-C.U. must know that when three-wheelers are allowed to compete with sidecars in speed trials they hold their own—and perhaps a little more. I would refer him to Southport, Gossall, Lewes and other speed trials of this year. His letter, like that of "Ohio," seems to imply that progress is ruled out in England. A good many people seem to believe that the "spiritual home" of the cyclecar is in France. Yet English machines hold nearly all world records, while as regards



## OUR READERS' OPINIONS (contd.).

reliability not a single first-class award has been won by any foreign three-wheeler in any important English trial this year. I need not refer to the number of cups and "golds" obtained by the English Morgan.

Four motorcycleists give it as their opinion that "three-wheelers are essentially the same as they were before the war." If this be so it is strange that their record speed has risen from about 60 m.p.h. in 1914 to 104 m.p.h. in 1926. It is true that the general design of the Morgan (which is followed by other English three-wheelers) has remained unchanged—so has, by the way, the general design of the Rolls-Royce; there has seemed no need to alter it—but if these gentlemen would compare the Morgan of 1927 with the Morgan of 1914 in detail I fancy that they would reconsider their verdict. The pre-war four-wheeled cyclecars went through many changes, but they have disappeared.

I quite agree with "Shacklepin" that the ban upon three-wheelers at Brooklands is unfair and helps to maintain an unreasonable prejudice. The A.C.U. is, of course, within its rights to limit competition among the machines under its control to 1,000 c.c., although this bars the more effective three-wheelers. Three-wheelers do not come under the scope of the R.A.C., and the J.C.C. (once the Cyclecar Club) has never given its reasons officially, although it has been challenged to do so more than once. I am afraid that even "Shacklepin" will fail to draw them.

The Morgan Club is doing good work in popularizing the

most economical form of motoring, and I am sure that it would promote some such trials as "Grand Prix" suggests if it received sufficient support. No doubt such an event would be made open if other cyclecars desired to compete. It should be remembered that English three-wheelers are built for economical motoring. So far supercharging is an expensive luxury and it might be necessary to bar it. However, Mr. Beart's challenge to a French supercharged three-wheeler over a long course has not yet been accepted, and the world records still remain with the English cyclecars.

H. GEORGE MORGAN.

## Speeds of Three-wheeled Vehicles.

In your last week's issue Mr. V. A. Cation states that the fastest sidocar speed is 103 m.p.h. If he will look through the F.I.C.M. records he will see that on September 5th, 1926, at Arpaçon Speed Trials, Mr. C. P. Temple broke the f.s. kilometre record by averaging 104.12 m.p.h., this being the mean speed both ways of the course! He also either forgets or does not know that Capt. R. Siran, in a 1,100 c.c. d'Yrsan, has lapped Monthery at approximately 110 m.p.h.

THREE-SPEED.

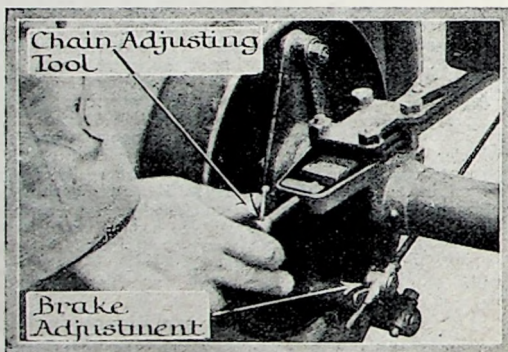
\* \* Capt. R. Siran's speed of 110 m.p.h. is not recognized as a world's record, Mr. H. Beart's record remaining unbroken. Except in the 350 c.c. class all existing world's records in three-wheeled cyclecars have been achieved on British machines.—Ed.

## The Cost of Spare Parts.

Referring to a letter signed by Mr. Allen Fox on the cost of spare parts, I cannot understand the charge of 10s. for a new gasket. For a four-cylinder A.C. the charge for a gasket is 4s., and this is not a particularly simple one and it is of the very best quality. Mr. Fox's letter certainly shows how, when one has

bought a foreign car, it is possible to have to pay through the nose for the parts required for it. That is why it is safer to buy "British and Best." S. F. EDGE.

"Buy  
British."



Every Trojan owner should make a point of keeping the article in this issue which deals with the care and maintenance of his car. This photograph shows how chain and footbrake adjustments are effected.

## Morgan Auxiliary Brake.

May I express my surprise that you should publish that "brain-wave" which caused the owner (of the "brain-wave") to design what is termed a "Morgan auxiliary brake." I see, advised in the text, that only a light control is necessary and also that a certain amount of discretion is, "of course," necessary in

using this brake. I should think there is quite a strain on quite lots of parts, and I do hope that owners of M.A.G.-engineed Morgans will not be fascinated enough with this scheme to fit them to their cars.

B38

What, in the name of goodness, was in the designer's mind to fix a brake on to the flywheel? If there were two brake blocks opposite one another it would not be so bad, but, as it is shown, on one side only it is really dreadful.

THE M.A.G. ENGINE CO., LTD.

OSBORNE DE LISSA, A.I.M.M., A.M.I.A.E.

Managing Director.

\* \* Our contributor "Shacklepin" gives it as his opinion that a flywheel brake of the type which are described would be a perfectly satisfactory device for emergency use, as it would not impose any load which might set up undue strains in the engine or transmission mechanism unless it was used harshly and to excess.—Ed.

## Secondhand Bargains.

As an owner of a 7.5 h.p. Citroën coupé I was interested to read the recommendation of this car in "Rich Mixture" as a good proposition for those who want a good second-hand car for "potter runs" at week-ends and for station work. So far as I am concerned, I quite agree with "Focus."

The 7.5 h.p. Citroën. My car was purchased secondhand in April, 1926, and has been in almost constant use ever since. Considering that it had done about 7,000 to 9,000 miles when purchased and that I most frequently drive it "all out," I consider this make of car, or mine in particular at least, as very reliable. Its total mileage now is in the region of 13,000-15,000 miles.

Beyond one broken axle (floating shaft), which fractured in Devon after a splendid fortnight's holiday in this hilly county, I have had practically no trouble. It is no exaggeration of mine to say that in winter or summer I am able to start in two or three turns of the starting handle. The car quickly reaches 42 m.p.h. (this I have had checked by a friend on another make of car) and I obtain 45 m.p.g., this on the cheapest spirit that I can lay my hands on. In general, I have endeavoured to race the car to death and I do all those things that most considerate drivers would not do; for example, I ran from Torquay to London all out with only one stop of 15 mins., running always on cheap spirit, and yet the car is still splendid in every way. If "Focus's" correspondent decides to invest in a Citroën Seven and wants a two-seater, I strongly advise the coupé. SAPPER ILFORD.

## CONDENSED CORRESPONDENCE.

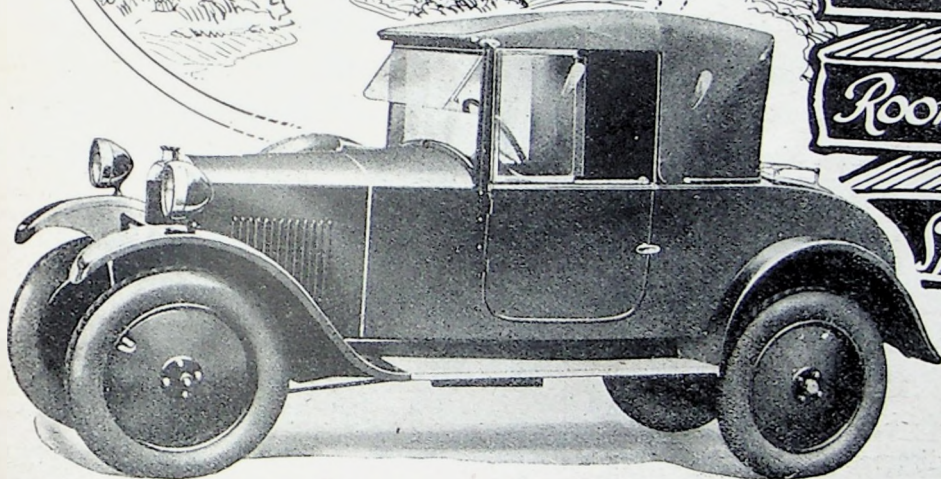
"I.A.R." (London, N.16) writes in praise of the prompt service of Watkins and Doncaster, Ltd., Rink Garage, High Road, Tottenham, N.15. A front spring of his Eric Campbell broke whilst touring in Cornwall, and he 'phoned through to this concern. Despite the fact that his call was received



# Peugeot

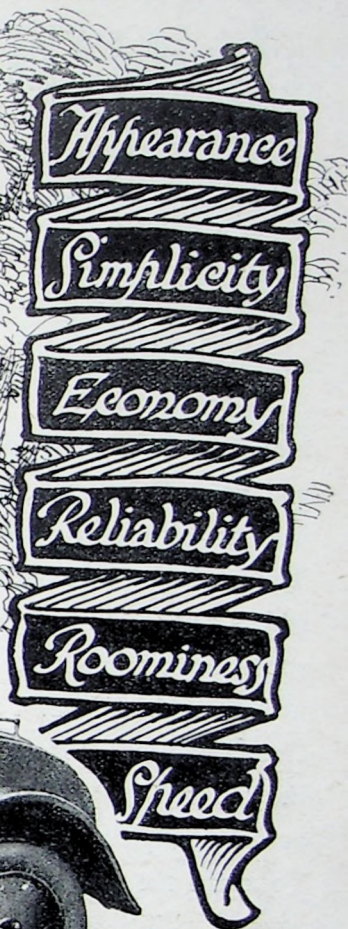
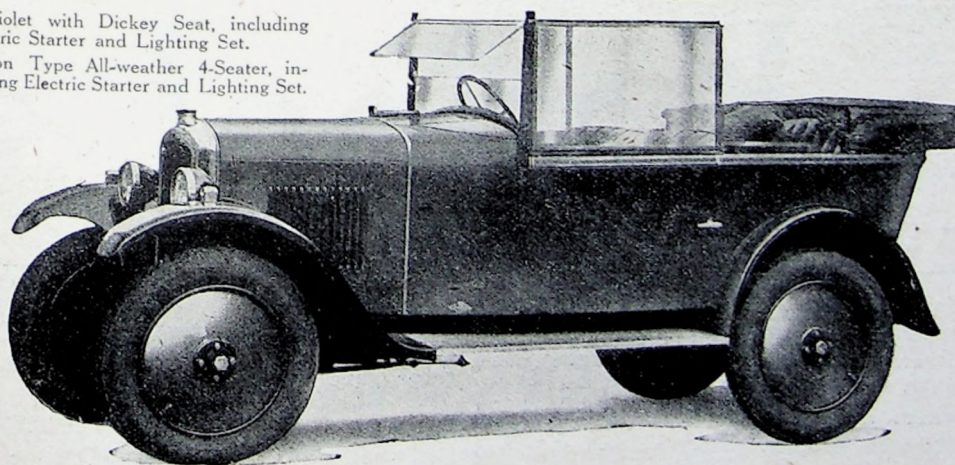
(PRONOUNCE IT PUR-JO)

Easily the best Seven  
& the best price  
£165



Cabriolet with Dickey Seat, including Electric Starter and Lighting Set.

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



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

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



# Come out of the wet!

No water has run down the grid and none down your sleeve. You haven't used the sponge. The wash-leather remains as stiff as a board on the garage-shelf. You have cleaned the car with Karpol. You have dry-cleaned the car. Not for a long time has she looked better, and as for you—well, you've hardly even rolled up your sleeves. To clean the car with Karpol you arm yourself with the Karpol tin and a couple of old soft cloths. The car is what your wife calls a disgrace—a veil of dust all



over it; occasional comets and stars of mud. You apply Karpol to the car—just as it is—using no water—and then you polish lightly first with one cloth and then with the other. The dust and the dirt disappear and the

car comes clean and bright.

No — you will not scratch the paint. Reckitt's — who make Karpol — assure you that this quick, easy and effective way of cleaning a car can be used without the slightest fear of scratching the paint, in fact, the paint will be preserved.

## RECKITT'S Karpol

Nothing but an actual trial will convince you of the almost magical results of Karpol. The following offer is therefore made for a very limited time.

Fill in this voucher. Send it to:

RECKITT & SONS, LTD., HULL (Dept. E.)  
together with sixpence. You will then receive,  
post free, a shilling tin.

Name .....

Address.....

.....

.....



## OUR READERS' OPINIONS (contd.).

five minutes after normal closing time, a spare was immediately taken down to the station and sent by passenger train so that "L.A.R." received it the following morning.

"YF6465" writes in praise of the splendid service of the British Thomson-Houston Co., Ltd. He recently bought a car fitted with a B.T.H. magneto, and so soon as it was run-in he discovered that excessive sparking at the contact-breaker points, accompanied by misfiring, took place when the engine was running fast. He immediately wrote to the B.T.H. concern and sent the magneto for examination; by return of post he received a reply stating that his magneto had not yet come to hand, but that a specially tested replacement was being forwarded to him by passenger train. The new magneto—of a slightly improved type—reached him 36 hours after posting his letter and no charge of any kind was made.

## INFORMATION WANTED.

SINGER.—Any reader who has an instruction book for the 10 h.p. 1924 model which he is prepared to lend or sell is asked to communicate with A. Streetfield, "Lynton," Elm Close, Amersham-on-the-Hill, Bucks.

## CLUB ITEMS AND SPORTING EVENTS.

## R.A.C. PERMITS.

The R.A.C. have issued the following closed permits: July 16th and 17th, Blandford and D. M.C. reliability trial; July 25th, Kent and Sussex L.C.C. speed trials; July 31st to August 1st, York and D. M.C. reliability trial; August 6th and 7th, Weaving and D. M.C. and C.C. reliability trial; August 26th, Essex M.C. Brooklands meeting; September 3rd, J.C.C. South-Western Centre, Southampton to Exeter reliability trial.

## KENT AND SUSSEX L.C.C.

A further series of speed trials will be held on the Itaco Hill, Lewes, on July 23rd. There will be eight events for sports, super-sports and racing cars up to 1,500 c.c. Two runs from a standing start will be allowed in each class. There will be three cups to be competed for, and prizes instead of medals will be given for first in every event unless otherwise requested. Entries close on July 19th, and completed forms should be sent to the hon. secretary, Mr. Lewis Humphries, 12, Mall Street, Lewes, Sussex.

## MUSWELL HILL M.C.

The club has organized a motor gymkhana which will be held on Saturday, July 16th, in the grounds of Halliwick Manor, Colney Hatch Lane, London, N.10. Seventy-five per cent. of the proceeds will be handed over to the Royal Northern Hospital Charities Fund. A novel and sporting programme beginning at 2.30 p.m. has been arranged; it includes a number of events in which cars may take part. Tea and licensed refreshments will be obtainable on the ground. A band will be in attendance, and dancing is part of the evening's programme. A fee of 2s. 6d. covers the entrance for one or all events, and includes admission to the ground. The secretary appeals to all motorists to give their support to this deserving cause.

## SHAKERSTONE SPEED TRIALS.

Fine weather favoured the Coventry Ace Club's speed event at Shakerstone Drive, Gopshall Park, kindly lent by Lord Waring.

The car classes were very poorly supported; in fact, S. H. Newsome's Alvis, a standard-looking two-seater, was the only runner in the racing class; B. H. Davenport's Frazer-Nash was entered, but did not put in an appearance.

The classes for sports cars produced four runners. Newsome's Alvis clocked the very creditable time of 31.3.5 secs. for the 800 yds. with 10 yds. flying start, only being beaten by 1.5 sec. by F. B. Taylor's Bugatti.

The other two cars, J. H. Whittindale's Lea-Francis and C. N. Green's Alvis, registered 35.3.5 secs. and 34.1.5 secs. respectively. The same four cars ran in the unlimited c.c. class, Taylor (Bugatti) reducing his time to 30.3.5 secs.

Two Morgans competed in the unlimited c.c. sidecar class, both being 1,096 c.c. Blackburns—engined models, and, although beaten by a sidecar machine, whose time was 26 secs., M. C. Jones was timed at 27.2.5 secs. and R. T. Lones took 27 secs.

In the class for three-wheeled cyclecars Lones's time was identical with his first run, but Heron took 25 secs., beating the best sidecar time by 1 sec.

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

The Huddersfield-London-Huddersfield 24-hour trial will be run on Saturday and Sunday, July 16th and 17th. The fourth freak hill-climb on Dalton Bank, Huddersfield, will be held on July 20th at 7 p.m., and will be open to three-wheelers and car owners who are members of the club. Two silver cups and a number of valuable prizes are offered.

## FORTHCOMING EVENTS.

## July 15.

Redditch and D. M.C. and C.C. Evening Circuit Trial.

## July 16.

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

North-West London M.C. London Coventry-London Trial.

Muswell Hill M.C. Gymkhana. Huddersfield and D. M.S.C. Huddersfield-London-Huddersfield 24-hour Trial.

Bradford and D. M.C. 24-hour Trial.

## July 17.

Le Coupe Florio. German Sports Car Grand Prix. Whitgift Club Trial.

Leicester and D. M.C. Freak Hill-climb. Disabled Drivers' M.C. Pitch Hill Rally.

Austin Seven C.C. (London Branch) Picnic Run to Saverne Forest.

## July 20.

Huddersfield and D. M.S.C. Fourth Dalton Bank Climb.

## July 23.

B.M.C.R.C. Cup Day Meeting. Liverpool M.C. Liverpool-Liverpool-Liverpool Trial.

Kent and Sussex L.C.C. Lewes Speed Trials.

Chester Centre A.C.U. Race Meeting.

## July 24.

Morgan Club Run to Saltdale, Sussex. London M.C. Gymkhana at Egham.

Austin Seven C.C. (London Branch) Run to New Forest.

Leeds M.C. Post Hill-climb.

## July 25-30.

Scottish Six Days' Trial.

## AUSTIN SEVEN C.C.

Two picnic runs have been arranged by the London Branch for July. On the 17th the run will be to Saverne Forest, and on the 24th to the New Forest. The start in both cases will be from the east end of the Great West Road at 9.30 a.m. and prospective members are invited.

It is proposed to form a Cornish branch of the club, with headquarters at Truro or Newquay. Interested Austin owners are asked to communicate with Lieut. E. M. T. Singer, Hotel Scaforth, Newquay, Cornwall.

RHODE.—Readers' experiences of the 1927 10-30 h.p. model would be appreciated.—H. C. Pyper, Royal Air Force, Uxbridge.

AUSTIN SEVEN AND SINGER JUNIOR.—Readers who have owned both these makes are requested to write, giving their experiences, to "A.N.," 71, St. John's Park, London, S.E.3.

PASSENGERS WANTED.—Messrs. Harris and Vidler, who will be driving Morgans in the forthcoming Scottish Six Days' Trial, would be glad to hear from any readers who would like to accompany them as passengers. Readers who accept this invitation would, of course, be expected to pay their own expenses. Those interested should write direct to G. Redston Road, Hornsey, N.S.

## LOST.

LOST.—An Austin Seven starting handle, painted red, between Alcester and Knowle, on July 3rd. The finder is requested to get into touch with W. M. Lloyd Roberts, care of 17, Grosvenor Road, Coventry.

LOST.—On Sunday, July 10th, near Runcymede, on the Staines road, a wire wheel, with 710 mm. by 90 mm. tyre, from a Horstman car. The finder is asked to communicate with J. B. Perry, 61, Prospect Crescent, Wickenham.

## WOOD GREEN AND D. M.C.

On July 17th the Wood Green and District Club is taking about 190 poor children for a run to Burnham Beeches. The club's premier event, the London-Beggar's Road-London trial, will be run on August 27th and 28th, starting and finishing at the Slough Trading Estate. It will be open to all clubs in the South Midland Centre, and entries should be sent to the hon. trials organizer, Club Offices, Crescent Road, Alexandra Park, London, N.

## THE SCOTTISH "SIX DAYS."

The following entries have been received by the Edinburgh and D. M.C. Ltd., for the Scottish Six Days' Trial, to be held from July 25th to 30th:—

## Three-wheelers.

J. M. Watson (1,096 c.c. Morgan), F. Spence (1,096 c.c. Morgan), G. C. Harris (1,095 c.c. Morgan), H. J. Vidler (1,096 c.c. Morgan).

## Cars.

P. D. Walker (1,496 c.c. Lea-Francis), A. G. Gripp (1,496 c.c. Alvis), H. L. Sheehan (1,074 c.c. Rover), — Ringwood (Nash).

## THE FLORIO CUP.

Twenty-six cars have been entered for the Florio Cup race which takes place at Saint Brieuc, in Brittany, on Sunday. A number of the entries are light cars.

Three of the interesting little front-wheel-drive Tracta cars will be seen, also the B.N.C. team which obtained first, second and third places in the Bol d'Or 24-hour race. R. Siran will drive the new D'Yvean four-wheeler and d'Yvercourt a de Coucy, special Bugatti and — Salmon are well represented.

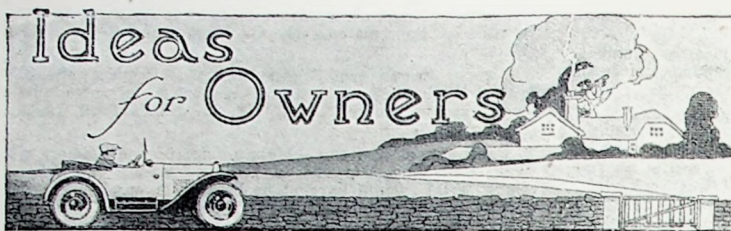
The Saint Brieuc circuit is considered to be particularly interesting. It is 31.5 kms. to the lap and includes many difficult corners and stiff gradients, also a very fine long straight passing the grand-stand. Owing to the conformation of the land a large section of the course can be seen at one time, making the event a spectacular one for the public.

Incidentally, the race is being held in one of the most popular French holiday districts.

## LEEDS M.C.

On July 24th there will be another racing climb on Post Hill; six days later there will be a motor gymkhana, and also a football match at Sheffield. During the remainder of this month social runs have been arranged to Grass-wood, Ulrome, Ravensall, Cowthorpe, Oak, Troutdale and Cloughton Gap. In August there will be the Ripon carnival at Bank Holiday Wednesday; the Novices and Revenge trials from headquarters on August 21st, the Yorkshire Club team trial on the following Saturday, and a Post Hill meeting on August 28th. A number of social runs have also been arranged for August. In September the first event will be the Leeds-Edinburgh-Leeds two-day trial on the 3rd and 4th; the Scottish trial on the 10th, and the Wilson Trophy contest on the 18th are expected to arouse considerable interest. On September 11th and 25th Post Hill will again be the venue for hill-climbs. A semi-sporting trial on October 2nd, the Yorkshire Centre open one-day trial on Saturday, 8th, and the Colonial trial on the 23rd carries the club's events well into the autumn.





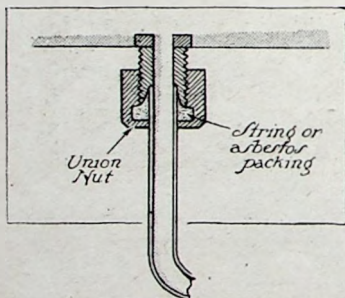
*We invite readers to send us hints gained from their own experience for inclusion in this feature. Five shillings will be paid to the sender of any hint published, but we cannot undertake to return contributions not used.*

### A Simple Petrol-pipe Repair.

Breakages in petrol pipes are now uncommon, chiefly owing to the fact that the connection from the tank to the carburettor is not unnecessarily long and is usually well supported at points where vibration might cause a fracture.

Nevertheless, it is possible that hard driving over rough roads may cause the pipe to come adrift at one end—in most cases it will be found that the break occurs at the point where the pipe is brazed or soldered into the cone union.

A number of temporary repair methods may be adopted according to the materials on hand, one quite satisfactory scheme being simply to bind the broken joint with electrician's adhesive tape until the fracture is made petrol-tight. This method, however, should be adopted only when the break occurs within easy reach of a garage where a proper repair may be effected, as after a short time the tape—if it be of the usual variety—will become sodden with the petrol and a leak of serious proportions will result.



**A petrol pipe broken at the union can be repaired by packing the union nut.**

Perhaps a better way to remedy the trouble is to remove the broken cone union and bend the pipe so that by its natural springiness it will tend to press against the coned face of the carburettor or tank union—depending upon which end of the pipe is fractured.

A length of string or asbestos fibre should be wound round the broken end of the piping to form a gland; upon tightening the union nut a firm joint will be formed, which may remain effective for many miles, provided that the car is driven slowly over bad roads.

B42

### A Washing Tip.

Water leaking through the louvres and bonnet hinges during the process of washing is likely to have an adverse effect upon the engine. The magneto may cease to function if it is subjected to a water bath and the petrol flow will be obstructed if the water leaks into the float chamber; the least that may happen is that unprotected metal parts of the engine will become rusty.

To prevent leakage through the points mentioned, sacking—or water-proof cloth, if obtainable—should be placed over the engine and its components before washing is carried out. This will do away with the possibility of the engine being obstinate to start after the exterior of the car has had a thorough cleaning.

### Sparking Plug Test.

When a car is difficult to start, or when the engine appears to be firing unevenly, it is generally thought that a reliable test for the sparking plugs is to be found in placing them on the top of the cylinder block, depressing the starter button and noting if sparks appear at the plug points.

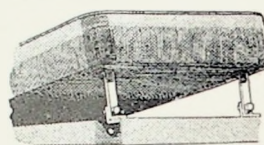
It is well to remember, however, that this test shows only that the magneto is functioning and that at least some electrical energy is being delivered to the points. It does not in any way follow

that because a weak spark will bridge a .6 mm. gap in air it will do so under compression. A leak may be present in the H.T. cable, also, which will not affect the free spark in air, but when the plug is subject to the compression in the engine cylinder the spark may take the easier path from the cable to earth.

### Improved Driving Position.

Drivers of Austin Seven cars who are particularly tall may find that, even with the front seat adjusted to its maximum position distant from the steering column, the position of the controls is not very convenient.

A simple method of overcoming the difficulty is to raise the position of the driving seat cushion with respect to the metal framework, details of the arrangement being shown in an accompanying sketch.



**Extended clips added (as shown) to the supports of an Austin Seven seat will increase the comfort for tall drivers.**

Two strips of steel 6 ins. long and 1 in. wide are needed, bent to shape as shown, with two small clips riveted or bolted at each end. These two pieces form clips which may be pushed on to the framework of the seat when the raised driving position is required. The clips with their supporting pieces drop comfortably under the seat and the original clips may be used when it is desired to revert to the normal position.

*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.*

**R.W. (London, E.C.).**—The 8-18 h.p. Talbot was fitted with a solid rear axle, whereas the 10-23 h.p. model had differential gearing.

**Y.P. (Eltham).**—Split and keyed pulleys are to be obtained from Coley, Ltd., Ordnance Works, Queen Elizabeth Road, Kingston-on-Thames.

**P.P. (Walthamstow).**—You probably refer to the knocking which is caused by incorrect magneto timing, a metallic knocking sound being caused by reason of pre-ignition of the charge. This is, of course, most harmful to the bearings of the engine, and the first opportunity should be taken carefully to check the ignition timing in accordance with the manufacturers' instructions.

**M.L.B. (Leytonstone).**—As you wish to avoid having your cylinders reground and new pistons fitted, you might try fitting Clupet piston rings which are designed readily to accommodate themselves to the bores of the worn cylinders.

**W.A. (Leamington Spa).**—If knocking still persists after the ignition timing of your car has been carefully checked you should use fuel of a brand claimed to have anti-detonating properties. The quality and variety of petrol used will be found to have a marked effect upon running efficiency, and, incidentally, driving comfort.

**R.C. (Milford Haven).**—Four long-distance reliability trials are organized by the Motor Cycling Club. These are the London-Exeter (Christmas), London-Land's End (Easter), London-Edinburgh (Whitsuntide) and Land's End-John o' Groat's (July). The club subscription is one guinea and the entrance fee 5s. The annual London-Lugano touring event is also conducted by the M.C.C.



12/40 h.p. Lea-Francis, 4-Seater

**£285**

## GYP

**I**T is just that extra bit of gyp in the Lea-Francis engine—that eager, quick response to the foot on the accelerator, that carries you over the crown of the awkward hill—the hill where a cluster of trams at the start stops you from getting off the mark as you would like.

It is just that little leap of power, as you are passing, that carries you safely and sweetly into your place in a tiresome line of traffic, that gets you home in time.

It is the little pocket of reserve in speed which matches the gay purr of a sweet-running engine, a reserve which you can safely use, for you have the Lea-Francis brakes, miracles of grip and reliability, between you and trouble.

This and more is true of the tens and twelves with their four cylinders. With the new fourteen, the supreme flexibility of the "Six" takes the motorist into a new country of pleasure.

Let us take you out for a spin, let us put you in the driving seat. But not unless you are ready to become a Lea-Francis owner, for the disappointment of going back to another car would hurt like the very deuce.

ANCIS

### MODELS AND PRICES.

10 h.p. from .. ..	£210
12 h.p. from .. ..	£285
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Also Coupe and Saloon Coachwork.

Over 100 awards have been secured by Standard Lea-Francis cars in open competition, including

### SPECIAL AWARD

BY THE ROYAL AUTOMOBILE CLUB, in their 1000 miles small car trial for Hill-climbing, Constant Reliability and Condition after trial.

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Telephone : Museum 8720.

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



# 100

## USED GUARANTEED CARS to choose from, £50 to £500

REMEMBER! They all carry our  
well-known written Guarantee.

AUSTIN, 1927, 7 h.p., Chummy models, Immediate delivery .. ..	£145
„ 1926, 2-seater Coupe .. ..	£125
„ 1926, 7 h.p., Chummy model .. ..	£110
„ 1925, 7 h.p., Chummy model .. ..	£98
A.C., 1924, "Royal" model, 2-seater.. ..	£115
„ 1922, 6-cylinder, 2-seater Coupe .. ..	£125
A.B.C., 1922, Aluminium 2-seater, with starter .. ..	£50
CITROEN, 1926, 7 h.p., 3-seater .. ..	£85
„ 1925, 7 h.p., 2-seaters, from .. ..	£55
„ 1924, 11.4 h.p., English 2-seater Coupe .. ..	£95
CLYNO, 1925, 2 and 4-seaters, from .. ..	£85
FIAT, 1925, 10 15 h.p., 4-seater, Saloon .. ..	£185
„ 1923, 10-15 h.p., 2-seater, English body, Coupe .. ..	£125
JOWETT, 1926 model, 2-seater and dickey .. ..	£95
„ 1925, 2-seater and dickey .. ..	£85
SINGER, 1926, 10-26 h.p., 4-seater, excellent condition .. ..	£145
„ 1924, 10-26 h.p., 4-seater .. ..	£90
STANDARD, 1924, 11.4 h.p., 2 and 4-seaters, from .. ..	£80
SALMSON, 1925, 2-seater, excellent condition .. ..	£85
WOLSELEY, 1922, 10 h.p., 2-seater and dickey .. ..	£75
„ 1921, 10 h.p., 2-seaters, from .. ..	£55

**Easiest Exchange and Deferred  
Terms on any make of new or  
used cars.**

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

Phones: Museum 3081, 2122 and 0140.

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.

## AROUND THE TRADE.

We are advised that the Delage cars which swept the board in the Grand Prix de France were fitted with Champion sparking plugs.

The Dominion Rubber Co., Ltd., 47-48, Farringdon Street, London, E.C.4, draw our attention to the fact that they have now in production 26-in. by 3.25-in. wired-out tyre Traxion tyres.

We have received from Messrs. Gillon Accessories, 149, Drury Lane, London, W.C.2, a leaflet describing the Gillon patent luggage grids suitable for Austin Seven, Citroën, Renault and Mathis cars. These grids are all simple to fit, rigid and very reasonably priced.



The Old and the New. A 1904 8 h.p. Rover, followed by one of the latest models, in a recent carnival procession at Stratford-on-Avon.

The attractive scheme of hire-purchase offered by W. H. Elee and Co., Ltd., 11, Canonmole Street, London, E.C.3, for Morgan runabouts is contained in a leaflet which is being circulated by this concern. No bills or promissory notes are required, and the interest charged for periods of 12, 18 or 24 months is very reasonable.

At a meeting of motor traders held in Birmingham on June 30th a considerable portion of Bingley Hall, Birmingham, was allotted to trade exhibitors for the forthcoming Used-motor Show, which is opening in that city on July 16th. The general section of the show is open to private car owners who wish to dispose of their vehicles. Application forms may be obtained from Mr. William Glass, Bingley Hall, Birmingham.

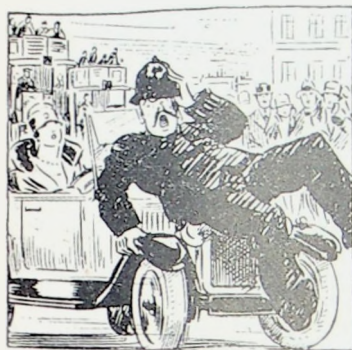
Between 60 and 70 members of the staff of Dunbills, Ltd., enjoyed their annual outing on July 3rd, when, fortunately, the weather was very favourable. The party journeyed from Hampton Court in the launch "The Richmond Belle" to Windsor. Lunch and tea were served on board, and the day was voted by all a great success. Arrangements were made by Mr. Warrington, the general manager, who acted as host.

Fort Dunlop notify us that among recent competition successes their tyres have figured very prominently. In the "Free for All" Race at Montlhéry on July 2nd the first, second and third cars home were running on Dunlops, and the first five to finish in the Coupé de la Commission Sportive Race were similarly equipped. Four out of six winners in the Surbiton Motor Club's Brooklands meeting, held on July 2nd, used Dunlop tyres, while the Delages, which won first, second and third places, and the Talbot, which was fourth, in the Grand Prix de France, on July 3rd, were fitted with Dunlops.



# Did he fall, or—?

At the Court of Roads yesterday, a lady driver who was prosecuted for assaulting a constable on point duty by pushing him across Piccadilly Circus on the bonnet of her car was defended by the S.P.C.M.



—WAS HE PUSHED?

The Prosecution brought evidence to show that, at the time of the assault, the constable had just signalled on the traffic after a hold up at the Regent Street point. The defendant was driving her car, which was in the front of the released traffic, and accelerated alarmingly, picking up the

constable before he had time to get out of the way and carrying him on the bonnet of her car right across the Circus before depositing him in the roadway.

The defence, the Counsel for which was briefed by The Society for the Prevention of Cruelty to Motors, pleaded guilty to technical assault but under extenuating circumstances. This lady driver, said Counsel, had up to the time of the assault used only the usual and ordinary lubricating oils, whereas on the day in question she had just had her sump drained and had filled up with Adcol New Process Oil. Murmurs of understanding and sympathy were general in the body of the Court and were allowed to pass unnoticed by Mr. Justice Sump. Consequently, Counsel went on, when she came to restart after the stoppage in question, she pressed the pedal as if to accelerate in the ordinary manner when, to her surprise, events took place as had already been described.

Mr. Justice Sump, in dismissing the case, said that her fault, if any, had been an admirable one, and as such was perfectly excusable. How could she know what a tremendous difference Adcol Oil would make to her car's acceleration? She had apologised to

the constable and that was the end of the matter.

On the pronouncement of the verdict, cheering broke out in Court in which, it is reported, even the Judge joined, and the lady driver was carried shoulder high into the street outside.



CARRIED  
SHOULDER HIGH.

## 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.

# 13/6

Postage 9d. extra

only is the price of this Remy Model 8C Electric Horn as illustrated above. Length 10 $\frac{3}{4}$ " overall. When ordering state whether 6 or 12 volt.

There is a Remy Electric or Hand-operated Horn for every car—for every purse—for every person. From the 13/6 model 8C Electric Horn to the 75/- model 25—each is perfect in its class. In style, in finish, in usefulness, in reliability they cannot be excelled. Ask your dealer to demonstrate or write us direct.

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DELCO-REMY & HYATT LTD., 111, Grosvenor Road, London, S.W.1.

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

B45





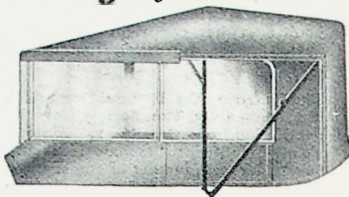
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## The Safety Celluloid



"Celastoid" offers perfect safety from Fire, is non-odorous, and is proof against decomposition to the extent of being practically permanent. It will not turn colour to a dark brown and will not spot in rain.

These properties make it a more efficient material for windscreens, side curtains,



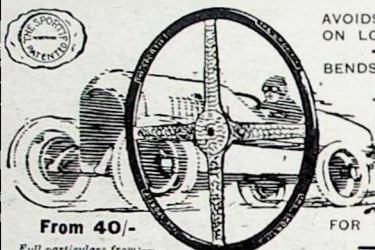
windows, back lights, and goggles—for windows and windscreens in aeroplanes and motor boats.

"Celastoid" is also obtainable in 16 permanent transparent colours for anti-dazzle and signalling devices. This safety Celluloid is exempt from all C.C. restrictions and Celluloid Acts.

"Celastoid" can be supplied by all Motor Accessory Dealers.

Sole Manufacturers: **BRITISH CELANORSE, LTD.**, 8, Waterloo Place, London, S.W.1.

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AVOIDS WRIST STRAIN ON LONG JOURNEYS.

BENDS BUT WILL NOT BREAK.

SAVES LIFE IN ROAD AND TRACK ACCIDENTS

SUITABLE FOR LADY DRIVERS.

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### YOUR TYRES & RADIATOR

A QUICK-DRYING PAINT. With Black, Eggshell finish for Tyres and Radiators. Dries hard in one hour. Makes old Tyres look like new. To be obtained of all Motor Dealers or direct from the Manufacturers.

PRICES:  
1/2 pint size 1/9  
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**"IRON-ARM" PUMPS**  
with the wonderful  
**"Sprays-All-Ways" Nozzle**

**They make CAR WASHING EASY**

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Leaflet "How to Wash a Car" free from

*Milward's*  
REDDITCH  
ENGLAND

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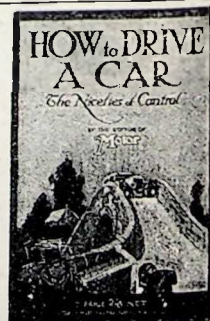
The Ninth Edition of this invaluable manual is a complete guide to the niceties of safe and efficient driving, particularly useful to the beginner in motoring.

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**STEERING DAMPER 17/6**

**STABILIZER (Double) (for back wheel) 52/6**

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## HOLIDAY NUMBER

Wednesday, July 20th

Ask your newsagent to-day to reserve you a copy of next week's Holiday Number of "Motor Cycling."

Full to the brim with articles of great interest and practical value to the holiday-making rider, and much enlarged, this splendid issue will explore the subjects of touring and preparing for a tour from all angles. It will be loaded with stimulating suggestions, and no important item of seasonable interest will be overlooked.

**GREATLY ENLARGED - 3d.**

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IN USED CAR BUYING CAN ONLY BE OBTAINED BY A DEFINITE GUARANTEE

A selection taken at random from our Special Summer Stock:—

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**ALVIS**, 1922, 10'4 de Luxe 2-seater, 4-speed, starter, fullest equipment, paintwork, etc., unscratched, very fast .. £78

**A.-C.**, 1924, Royal 2-seater, sunk dickey, starter, morocco upholstery, Harford, ventilators, fullest equipment, countless extras. Choice of 5 .. £39

**BUGATTI**, 1924, special sports 2-seater, black-red chassis and wheels, 4-speed, starter, good hood, morocco upholstery, exceptionally fast, tip-top throughout .. £99

**CITROEN**, 1926, 3-seater cloverleaf, 7.5, start, balloons, very small mileage, fullest equipment many extras. Choice of 7 .. £85

**FIAT**, 1923, 10'15 English 2-seater, sunk dickey, speedo, double screen, all extras, 2-door body, new hood, perfect throughout. Choice of 2 .. £85

**HUMBER** 818, 1924, 2-seater, sunk dickey, speedo, upholstery, paint and hood as new, mirror, many extras. Choice of 3 .. £99

**JOWETT** 7, 1923, 2-seater, sunk dickey, balloons, clock, speedo., leather upholstery, mirror, rigid equipment. Choice of 2 .. £65

**ROVER** 8, 1925, 2-seater, 2-door, starter, rigid equipment, paintwork, etc., unscratched, balloons. Choice of 2 .. £99

**SINGER** 10, 1924/5, de Luxe 2-seater, sunk dickey, starter, speedo., original paintwork, etc., remarkably well kept throughout. Choice of 2 .. £78

**STANDARD**, 1924, 11'4 Canley 2-seater, starter, excellent tyres, just completely overhauled, tip-top throughout. Choice of 5 .. £85

**WOLSELEY** 7, 1922 3 2-seater, starter, speedo., mirror, good hood, all extras, remarkably well kept throughout. Choice of 3 .. £55

## FOUR-SEATERS.

**CITROEN**, 1925, 11'4 English 4-seater, starter, balloons, tip-top throughout, fullest equipment. Choice of 2 .. £88

**CITROEN**, 1925, 11'4 3-door Saloon, starter, balloons, Bedford cord, adjustable windows, petrol can carrier, all equipment, paintwork, etc., unscratched, small mileage .. £99

**FIAT**, 1922, 10'15 de Luxe 4-seater, speedo., sidescreeens, good hood, paintwork, etc., excellent, exceptionally smart, roomy. Choice of 3 .. £78

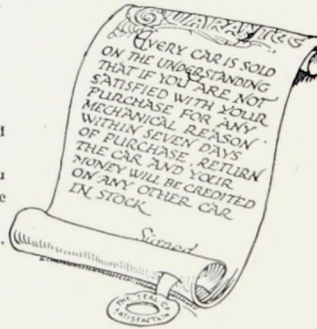
**HILLMAN**, 1924, 10'4 de Luxe Saloon type, all-weather, rigid equipment, 3-piece screen, starter, antique leather upholstery, countless extras, good tyres. Choice of 2 .. £95

**LEA-FRANCIS**, 1924, 10'4 de Luxe 4-seater, starter, double screen, rigid equipment, morocco leather upholstery, adjustable front seats, tip-top chassis .. £99

**RHODE** 10, 1924, 4-seater, speedo., starter, all extras, tyres as new, upholstery, paint and plating first class. Choice of 3 .. £85

**STANDARD**, 1924, 11'4 de Luxe 4-seater, 3-door body, starter, good tyres, leather upholstery, speedo., rigid equipment, small mileage. Choice of 3 .. £85

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THIS BROCHURE WILL HELP YOU

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is immaterial. During 1926 over 50 per cent. of our business was concluded through the post, mostly part exchange transactions. It is quite safe, your protection being our guarantee. Also, Benmotors' cars are as specified, and the farther you are away the more we feel you are relying on us. It is distinctly up to us to see that you get a square deal. For the sum of £2 10s 0d. extra we will deliver anywhere in England, Scotland or Wales—including collection if the transaction is a part exchange.

Ways  
and  
Means  
by

Benmotors

## EXCHANGES

We will quote you a definite allowance for your present car or motorcycle per return on receipt of full particulars. This sum can act as deposit, should you wish to take advantage of our terms, balance to suit yourself. By obtaining this quotation you do not place yourself under the slightest obligation. Also, we do not "follow up" any inquiries you may make except by your request. We mention this point as we note that the objectionable and annoying practice of intensive "following up" of even casual enquiries appears to be very prevalent nowadays.

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# Benmotors

THE CLEARING HOUSE FOR SMALL CARS

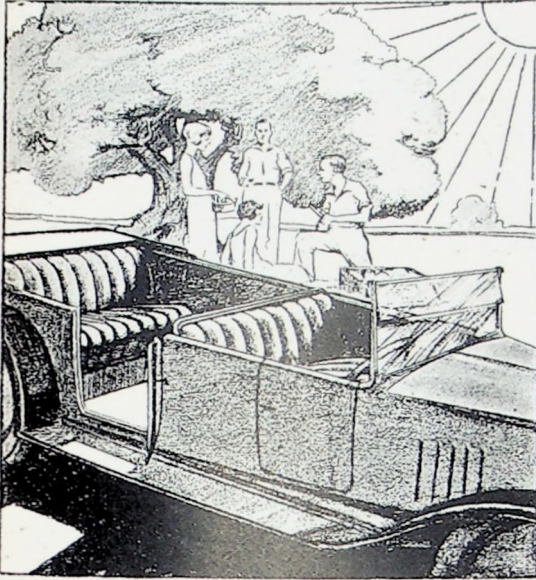
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**"REXINE"** upholstery will not fade—no matter how strong the sun—nor will a heavy downpour cause any ill effect. "Rexine" has fast colours and is absolutely waterproof, grease will not stain it, hard wear will scarcely show. There is no other material so suitable for motor car upholstery—none more durable and none so like actual hide.

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BRAND LEATHERCLOTH

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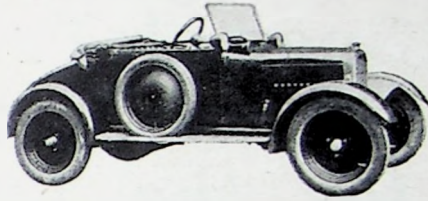
22 & 49, Praed St., Paddington, W.2.

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ALL GUARANTEED.

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ROVER. 1923, 8 h.p., 2-seater, fitted special double sunken dickey, dynamo lighting, good tyres, smart appearance, in really splendid condition . . . . . £35

## CARS.

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RENAULT. 1925 model, 8.5 h.p., 3-seater. Cloverleaf, dynamo lighting, starter, F.W.B.'s. balloon tyres, smart and economical car . . . . . £82 - 10  
Choice of another . . . £77 - 10

TALBOT. 1921, 8/18 h.p., de Luxe 2-seater and double sunken dickey, dynamo lighting, self-starter, speedometer, beautifully coach finished. Tax paid for the year . . . £75

CALTHORPE. 1924, 12/20 h.p., de Luxe 4-seater, dynamo lighting, self-starter, leather upholstery, gorgeous condition. £74

STANDARD. 1924, 11.4 h.p., 4-seater de Luxe, leather upholstery, dynamo lighting, self-starter, speedometer, rigid all-weather equipment, beautifully coach finished, very fine mechanical condition £72 - 10

AUSTIN. 1923, Chummy 4-seater, dynamo lighting, perfect condition and appearance £72 - 10  
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SINGER. 1923, 10 h.p., 4-seater de Luxe, dynamo lighting, self-starter, electric and bulb horns, speedometer, leather upholstery, rigid all-weather equipment, very attractive and serviceable car . . . £67 - 10

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CITROEN. 1924.5, 7.5 h.p., 2-seater Coupe, balloon tyres, starter, lighting, extremely smart . . . . . £56

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MORGAN. 1926.7, Family, Anzani Summit, O.H.V., dynamo lighting, clock, speedometer, bulb and electric horns, rigid sidescreens, very fine condition. Tax paid for the year . . . £95

MORGAN. 1926 model, Family 4-seater, 8 h.p., J.A.P. w.c., dynamo lighting, extremely carefully used and practically equal to new throughout . . . £82 - 10

MORGAN. 1924/5, Family 4-seater, 10 h.p., w.c., dynamo lighting. Year's tax . . . £67

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MORGAN. 1925, de Luxe 2-seater, O.H.V. engine, dynamo lighting, speedometer, dashlight, really exceptional mechanical condition . . . £57 - 10

MORGAN. 1921, 8 h.p., 2-seater Sports, electric lighting, new tyres, nice mechanical condition . . . . . £25

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BENTLEY  
fitted with



PISTON  
RINGS

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STAND THE  
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H.P.

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Adds that very distinctive and well-kept look.  
Takes away that *heavy, dull* look of Black  
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BOARDS

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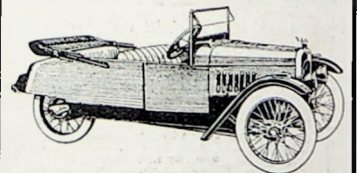


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