

Vol. XXIX No 752
Friday May 6, 1927
*Registered at the G.P.O.
as a*

The only Small Car Journal

NK8370

For the "Sports" engine

the

LODGE

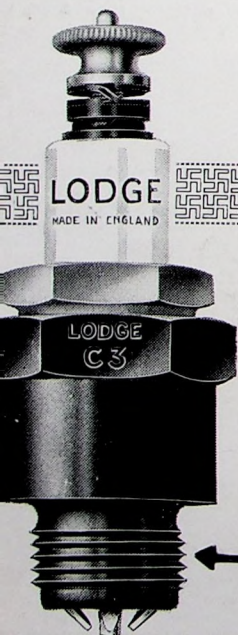
SPORTS PLUG

is the finest plug that
has ever been made

Lodge Sports
Model H1
On sale everywhere

6/-

packed in sealed blue
metal box.



For ordinary touring, or
for cool running engines,
the standard Lodge plug
(model C3) 5/-, is the plug
to use.

LODGE PLUGS LTD., RUGBY.

The
11·4 h.p. **CITROËN**

a Car for real Service!

“The longer a Citroën is run
and the harder it is driven,
the better it becomes.”

OWNERS' OPINION.



£190

11·4 h.p. SALOON, 4-DOORS.
With F.W.B. - - - £210

Works at Slugg

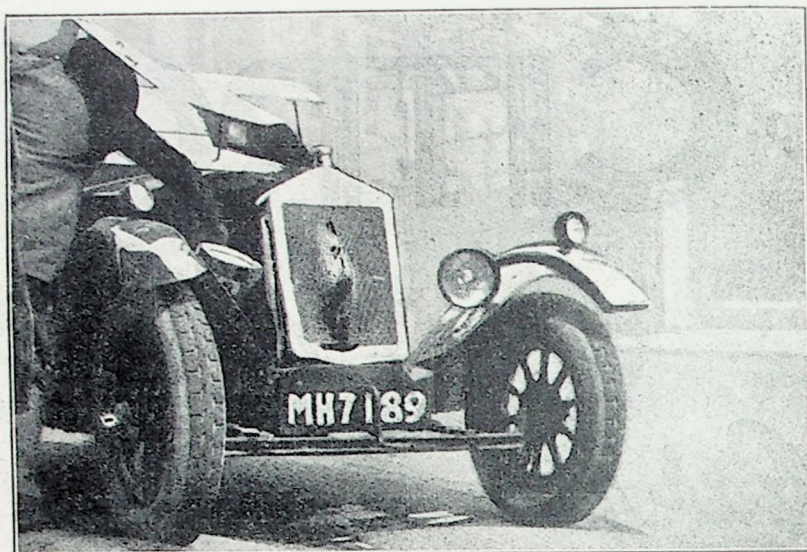
Send for the Citroën Book 18.

CITROËN CARS, LTD., CITROËN BUILDING, HAMMERSMITH, LONDON, W.6.
Showrooms: Devonshire House, Piccadilly, W.1.

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

B/G/M.—M.C.11

A1



Save yourself all this trouble by fitting—

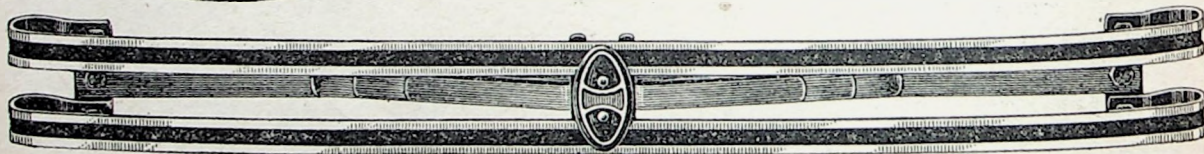


"The Bumper with the Leaf-Spring Buffer."

It happens in an instant! The car in front stops suddenly without warning or someone runs into your car while parked. Unless you have provided the efficient protection afforded by PYRENE Bumpers you have to face the inconvenience and cost of damage to the Radiator, Wings, Headlamps, Wind-screen, etc.—with the added risk of injury.

Save yourself from all this trouble by fitting PYRENE Bumpers.

They will also help you to secure your "No Claims" Insurance Rebate.



Patent applied for.

Many interesting features are embodied in the design of PYRENE Bumpers. They are constructed of special spring steel, skilfully tempered to ensure maximum resiliency. The main bars are re-enforced with a

laminated spring buffer which provides additional strength and evenly distributes force of impact. Handsomely finished in nickel and black. Supplied in 3 sizes to suit cars of various weights.

PRICES :—No. 1 (Small) .. £3-10-0 each. No. 2 (Medium) .. £4-0-0 each. No. 3 (Heavy) .. £5-0-0 each.



PYRENE FENDER GUARDS

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

PRICES :

No. 1 (Small)	.. £3 15 0	per pair.
No. 2 (Medium)	.. £4 5 0	
No. 3 (Heavy)	.. £5 5 0	"

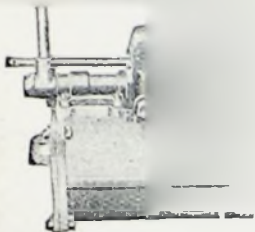
The above prices include standard Brackets. If special Brackets are necessary, an extra charge of 10/- may be made.

Write for Illustrated Folder L.C./B.

THE PYRENE COMPANY, LIMITED, 9, GROSVENOR GARDENS, LONDON, S.W. 1
 Telephone : Victoria 8592 (4 lines).
 Telegrams : "Pyrenextin, Sowest, London."

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

ALWAYS—IF YOU ARE EQUIPPED WITH DEWANDRE VACUUM SERVO BRAKING



THE FINEST INSURANCE

against accident and injury

IS

the co-operation of
the Dewandre Vacuum
Servo with Rubury-
Alford and Alder
Front Wheel

BRAKES

The Dewandre Vacuum Servo gives 4 TIMES
THE POWER to your brakes at the lightest
touch of the pedal!

Think what that means in facing present-day
driving conditions.

It makes driving on crowded streets SAFE.
It eliminates "emergency" on the open road
by simple ability to meet every crisis surely,
instantly. It completes driving comfort by
conferring a true sense of security.

The Servo is a small unit that fits into the
normal braking system of any car.

In the extreme case of accident to the
Servo the ordinary brake action remains
unaffected.

See that your car is equipped with this
fundamental necessity.

Sole Licensees and Manufacturers :

Clayton WAGONS LTD.
LINCOLN.

Telephone - - - - LINCOLN 950-2
Telegrams - - - - "ABBEY, LINCOLN."

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

THE easiest and by far the most satisfactory way of obtaining the car of your choice is to make

TAYLORS

your bankers. First you draw from our varied stock the car you have set your mind on—paying at the same time a modest deposit—then at regular monthly intervals you pay into your account with us an amount to be agreed upon, this sum varying according to the length of time you would like to take to complete the purchase, say 6, 12 or 18 months, whichever suits you best.

Remember—if you buy at Taylors you get more than a good car at the right price and upon the easiest of terms. You get Taylors Inspection Service FREE. This Service is invaluable to all purchasers of new cars, for it ensures your 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 48-page Buyer's Guide, for it tells you all about our liberal "Service after Sale" as well as containing invaluable information which every motorist ought to possess—this fine illustrated guide is FREE for the asking.

ALL MAKES SUPPLIED
including the following in which we specialize

MORGAN from £89
JOWETT from £139
AUSTIN from £145
SINGER from £148. 10

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

THIS WEEK'S SNIPS.

A good selection of guaranteed second-hand Cars always in stock and attractively priced, a selection of which we give below. Our terms are right, our prices are right, our service is willingly yours, and our deliveries are immediate. Ride while you pay.

ROVER, 1920, 8 h.p. 2-Seater	£225
A.C. 1920, 11.8 h.p. 2/3-Seater	£265
BALMORN, 1924, 9.5 h.p. 2-Seater	£265
PEUGOT, 1922, 10 h.p. 2-Seater	£245
FIAT, 1922, 10 h.p. 2-Seater	£197 10
ROVER, 1927, 4-Seater Demonstration Model	£199
CITROEN, 1924 11 h.p. Coupé	£287 10
AUSTIN, 1925, 7 h.p. 2/3-Seater	£292 10

Full list gladly sent on application.

H. TAYLOR & Co., Ltd.

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

HOUS OF BUSINESS:
Thursdays 9 to 8.

Saturdays 9 to 1.
all other days 9 to 7.

One minute
from South
Kensington
Station, Met.,
and Piccadilly
Railway.

Phone:
Kensington
8568/9 and
5540.
Grams:
'Dynametro
Southkenn.'

PUBLICATION DATE MAY 9th

The Austin Seven Book

By
R.T. Nicholson, M.A.

Price 2/6

TELLS THE OWNER-DRIVER
ALL HE NEEDS TO KNOW

HOW to get the best from your Car.
to cut down your running costs.
to keep your Austin 7 always fit.

ORDER EARLY.

AND ENSURE AVOIDANCE OF DELAY.

From all Booksellers, Newsagents and
The Gregg Publishing Co., Ltd., 36-38, Kingsway, London, W.C.2.

B&D STABILIZERS

3 SIZES
52/6, 63/-. 72/-
per axle, brackets included.
Can be purchased on trial
under guarantee.

Unique Advantages!

**Ease of Fitting.
No frame Drilling.**

Simple and
sound con-
struction
which has
stood the
test of time.

The Light Car & Cyclecar
says:—"We found no d.m.
culty in assembling them...
the only tools used being two
set spanners... Whereas before
it had been practically impossible
to travel at more than 30 m.p.h. with-
out discomfort, it is possible now to
drive at least 10 m.p.h. faster..."

BENTLEY & DRAPER LTD

4, FENCHURCH AVE., LONDON, E.C.3
Grams: "Bentley" Phone: 3029
"Bendrapic, Fen, London." Avenue 3029

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

BALANCE.



This leaning tower of Pisa is a marvel of balancing, the top being more than sixteen feet out of the *perpendicular*. The Jowett engine, a *horizontal* twin, is even more marvellous in its balance. It excels a "four" in this respect and approaches the smoothness of the "six." Consider what this smoothness means to you. Negligible wear, long life, freedom from irritating repair bills. In fact, one of the many reasons why Jowett motoring is cheaper than any other kind of transport. If happy, care-free, economical motoring is wanted, the car must be a Jowett. Send now for our unique literature. Short 2—£139; Long 2—£150; Light 4—£145; Full 4—£150; Saloon—£185.

Dunlop Balloons and Stewart Speedometer Standard.



MISS VIOLETTE CORDERY
USING MIXTROL IN HER FUEL
SEE WHAT SHE SAYS ABOUT IT

THE MIXTROL OIL CO.,
43, BERNERS STREET,
LONDON, W.1.

With reference to the five long distance World's Records obtained on my INVICTA Car at Montlhery, viz., 3,000, 4,000 and 5,000 Kilos, all at an average speed of over 70 miles per hour, I have pleasure in stating that Mixtrol was used with very satisfactory results, and I shall certainly continue to use it in future events and also for touring ordinarily.

Yours faithfully,
(Signed) VIOLETTE CORDERY

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

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

IF YOU ARE NOT SATISFIED
WITH THE RESULT, WE
RETURN YOU THE MONEY
IN FULL WITHOUT DEMUR

THE PERFECT UPPER CYLINDER LUBRICANT PUT IT IN YOUR FUEL.

REGISTERED

TRADE MARK.

FOR MOTOR CARS

Mixtrol

FOR MOTOR CYCLES

BE A HAPPY MIXTROLITE.

LUBRICATE—DON'T LACERATE.*

WE GUARANTEE

ABSOLUTE LUBRICATION OF THE CYLINDER WALLS
AND ALL UPPER WORKING PARTS.
LONGER LIFE OF ENGINE. CURES KNOCKING.
MORE POWER, SPEED AND PICK UP.
EASY STARTING. INCREASED MILEAGE.
CARBON DEPOSIT REDUCED TO A MINIMUM.
NO GUMMING UP. NO SEIZE UP.

*WRITE FOR EXPLANATORY BOOKLET. FREE.

THE MIXTROL OIL CO.,

43, Berners Street LONDON, W.1.
Telephone—Museum 4044. Telegrams—"Olmixtrol, Wesdo."



Capt. A. G. MILLER.

WINNER OF

BROOKLANDS GOLD VASE,
May 24, 1926

USING MIXTROL.

THE BREAKER OF 164 RECORDS
WINNER OF OVER 300 RACES

SEE WHAT HE SAYS ABOUT IT

THE MIXTROL OIL CO.,
43, BERNERS STREET, W.1.

Dear Sirs.—This is to say that I have been trying out "Mixtrol" Oil on my Sunbeam racing car and also on my Voisin car during the last few weeks, with most satisfactory results, which I am highly delighted with.

I find it a very great asset from a speed point of view, and it suits the engines admirably, and it has made a very vast improvement on the Voisin.

I am so pleased with it, in fact, that I shall strongly recommend my friends to use it on their cars, as it certainly keeps the engines beautifully free, even when stone cold.

Yours faithfully,
(Signed) A. G. MILLER, Capt

F. PRATTEN & CO. LTD., BUILDERS, MIDSOMER NORTON, W. BATH

PRATTEN'S Duple-Joint Garage

PRATTEN'S
Duple - Joint
Patent No.
227460/24
"The more it
turns the
tighter its
grips."

PRATTEN'S Duple - Joint
Garage is built for security
and long life, and made in com-
plete sections which can be
erected without skilled labour
in 1½ hours. 14' x 8' 6" £15 5 0
16' x 8' 6" £16 10 0. Carriage paid.

Write for Catalogue No. 35, which contains
illustrations and prices of other garages.
We insure garages supplied
by us against fire—free.

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

D.A.58

"BEST"

DASHBOARD ASH TRAY
REDUCED PRICE.

NOW 6/- COMPLETE

Big demand and extended facilities for
production have enabled us to lower
the price of our popular Ash Tray by
as much as eighteen pence. A motorist's
perfect Ash Tray; closes completely
with sliding shutter—no smell—no risk
of fire. Can't upset. Can't rattle.
Contents emptied by pressing
lever. And now obtainable from
your local dealer or direct from
the makers for 6/- complete
with fixing screws.



THE "BEST" DASHBOARD GRIP.

Here is a "helping hand" for your front seat passenger when he
rises to leave the car. Simple, inexpensive, easy to fix—repays
its cost over and over by safeguard-
ing the screen, door hinges and
bodywork from damage and strain.

Price 3/6 Complete.

Ask your local dealer for "Best" Accessories and
if he doesn't stock—send your order direct to us—

BEST & LLOYD

HANDSWORTH, BIRMINGHAM.
Moodmark: BCM/BESTLLOYD.

The Targa Florio

The most gruelling reliability race in the world was run in Sicily on the 24th ult. In the 1,100 c.c. Class the

SAN SEBASTIAN SALMONS

were

FIRST & SECOND

thus again asserting their superiority. This is a standard model exactly as sold to the public, and with our twelve other models can be seen and demonstrated at

The Sole London Distributors:

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

SOLE CONCESSIONNAIRES FOR UNITED KINGDOM AND BRITISH DOMINIONS:

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

Professor Antibounce

THE WISE-MAN OF THE ROAD



IF YOUR CAR SWAYS badly when cornering, if the suspension is too light, causing the body to bounce on rough roads; if the steering is "jerky," or if the vibrations from the chassis due to road shocks, &c., are transmitted through to the body, then my advice to you is to FIT STOTT ANTIBOUNCE CLIPS to the Springs. You will be delighted at the difference they will make to the running of your car and to your bill for wear and tear.

THE STOTT ANTIBOUNCE CLIPS act direct on the springs themselves, they are extremely simple to fit, and once fitted need no further adjusting. THEY ARE EFFECTIVE AT ALL SPEEDS.

I have received the following letter from the owner of a ROVER 9.

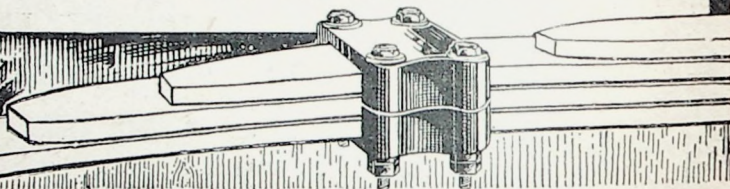
"Please find enclosed cheque in payment for 'Antibounce Clips.'

I find these very efficient indeed, especially on the steering, and for the prevention of skidding."

PRICES from 11/6 per pair.

A postcard to the makers will bring their booklet on "CAR SUSPENSION," and they will be pleased to give you all the advice they can about your own particular car.

RICHARD BERRY & SON (Dept. A),
Mafeking Road, SMETHWICK.
Phone:—651 Smethwick, Grams:—Springs, S.M.E. HWICK."



"WELLINGTON" LIQUID METAL POLISH

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

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

TRY IT
and
PROVE IT.

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

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

FIT STEPNEY BRITISH MADE TYRES



Immediate
Delivery
of All Sizes.

NO INCREASE
IN PRICES.

SUPPLIED BY
ALL GARAGES.

Manufacturers:—

Stepney Tyres Ltd., Llanelly,
and Walthamstow, London, E.17.

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

magneto
ignition

THE SAFEST IGNITION



1. Magneto Ignition is the only independent self-contained system of ignition.

2. Magneto Ignition is the only system not affected by accumulator trouble, nor involving elaborate service facilities. And it is fool-proof.

3. Magneto Ignition requires no electrical knowledge on the part of car owners.

4. Magneto Ignition is used on over 95% of the cars sold in Great Britain.

5. The world's record is held by a car which depends on Magneto Ignition.

6. The high quality of British Magnetos has taught motorists to expect ignition perfection. If through the use of inferior substitutes they experience ignition trouble it is the car maker's reputation which suffers.

7. The use of substitute ignition systems, most of which are of foreign origin, affects a vital British industry and the welfare of thousands of skilled British workers.

One reason for the Supremacy of British Cars

BRITISH cars are famous throughout the world for reliability. Much of this is due to the fact that the vast majority of our car makers (despite cost inducements) refuse to use any system of ignition but the magneto.

Other countries where magneto manufacture has not reached so high a stage may have to rely on the coil-and-battery system which magnetos superseded years ago. But British car makers, enjoying the benefit of the finest magnetos that can be produced, know that real reliability is impossible when the ignition is dependent on the battery.

With such systems, battery leakage, a lamp failure or the tiniest thing amiss with the plates, cells or acid of the accumulator, will render the car lifeless.

The magneto is self-contained and independent. It will outlast every other component on a car and never need to be looked at. British magnetos—the magnetos that are fitted to all our aeroplanes and motorcycles and to more than 95% of our cars—have provided the basis for British car supremacy.

Insist on Magneto Ignition and

BRITISH MAGNETOS

BUY A BRITISH CAR WITH A BRITISH MAGNETO

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

A HORN FOR EVERY CAR



There is a Remy Electric or Hand operated Horn for every car—for every purse—for every person. From the 16/- 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.

REMY HORNS

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

Electric
Model 25,
75/- Post 1/-

Electric
Model 8C, 16/- Post 9d.

Electric Model 18,
55/- Post 1/-

HAND OPERATED
Model 3V.
19/6 Post 9d.

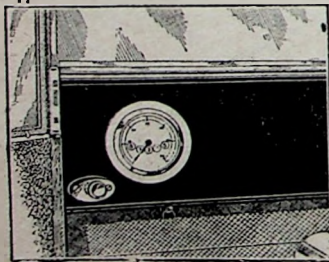
Elec. Model 15, 30 -
Post 9d.
When ordering Electric
Models state 6 or 12 volts

FIT YOUR AUSTIN 7

first of all with the BODELO BRAKE ATTACHMENT and then with the BODELO PETROL SAVER, they are two accessories which will make the handling of your Austin 7 very much simpler.

THE BODELO BRAKE ATTACHMENT for Austin 7 Cars enables all four brakes to be operated by the foot pedal without interfering in any way with the existing hand brake mechanism. Thousands are in use all over the country, therefore fit one to-day.

PRICE
30/-



turn it off, you push it in to turn the petrol on.

PRICE 12/6

LYOYD & DEELEY,
177, Broad Street,
BIRMINGHAM.

Turn off the petrol from the dashboard, it ensures clean hands, it stops the drip from your carburettor, thus reducing the risk of a fire to a minimum.

THE BODELO PETROL SAVER works automatically, you pull the control knob out to

Ready-to-Erect Garages



GLIDING-OUT-OF-WAY DOORS. FREE FIRE INSURANCE POLICY. FREE PLANS. DEFERRED TERMS ARRANGED.

Anyone can erect a Thornber Garage.

All the work is done for you. Sections are sent fully framed and complete. No loose timber. You bolt section to section. The holes are bored, the bolts are supplied. The job can be finished in one afternoon. Built to last and to please. EVERY GARAGE COMPLETELY ERECTED BEFORE DESPATCHED IN SECTIONS. THIS ENSURES PERFECTION.

A Thornber Garage Saves you Pounds.

You save on first cost, because Thornbers' modern machinery cuts out expensive hand labour. You get a better garage for your money. It repays cost within 9 months. You have no additional expense—all fittings are supplied.

Gliding-out-of-way doors that move at a child's push, occupy no room and obviate hinged door weakness. Free Fire Insurance Policy. Free plans for submitting to Council. Sizes for all popular makes of cars. Deferred Terms arranged. Quick Deliveries. Garages can be inspected at works.

SEND FOR FREE FOLDER AND STATE REQUIREMENTS.

THORNBERS
for EVERYTHING in WOOD

9, MYTHOLMROYD, YORKS.
London Office: 47, Victoria Street, S.W.1.
(where models may be inspected).

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

Horse Sense more than Horse Power

It's all right to talk about Horse Power, but Horse Power isn't everything—unless it's the right kind of horse! A dray horse is a powerful brute, but it's a case of "brute strength—and colossal ignorance!" Whereas a hunter or a race horse can show equal stamina and almost equal power—and heaps more "sense" in applying to the last ounce the strength it possesses. So with the Rhode; its rating is almost a misnomer when it is compared with others in the same class—simply because it excels in that peculiar and unique ability to multiply its own strength by clever adaptability.

The 10 30 Rhode embodies many new and exclusive features which can only be found on the Rhode. It will PAY you to make inquiries. There's a catalogue and interesting literature available. A p.c. will bring them to you.

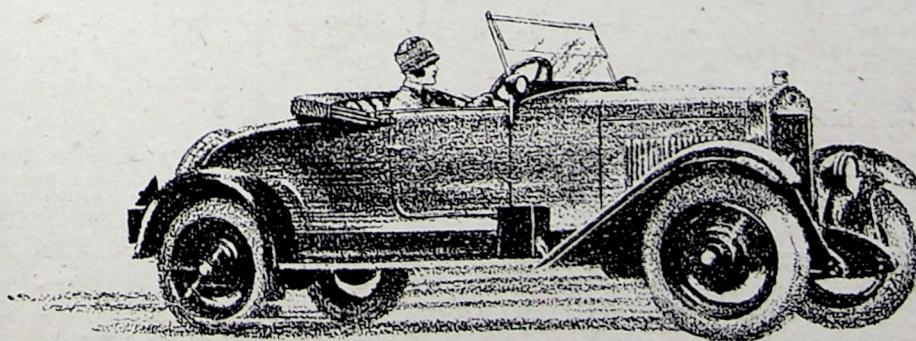
Two seater
with large
double dickey

£ 198

Four-five
seater
model.

Cellulose finish in blue or maroon.

England's first—truly fine small Car.



The Rhode Motor Co., Tyseley, Birmingham.

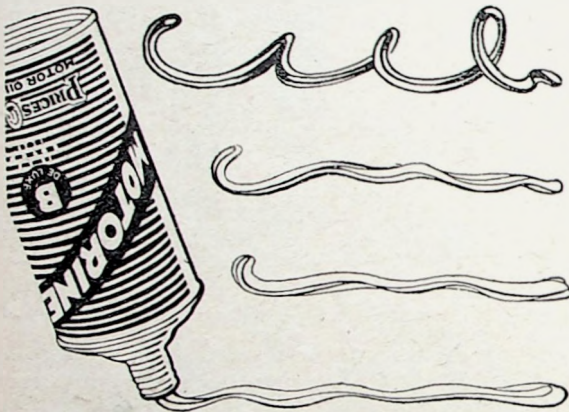
London and Home Counties:—Normand Garage Ltd., 489, Oxford St., W.1

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

All

Oil

Oil



What oil do you use? Why? Ever experienced the difference the right grade of the right oil makes? If you know what it's like to have her stuck solid cold mornings, or know how she bubbles with temper when the sun (*when the sun, mark you*) gets warm—try the right grade of MOTORINE. My, but what a world of difference.

To learn why, send a p.c. for the free book "The Car" (or, if you are a motor-cyclist, "The Motor Cycle").

Price's, the Oil People (Dept. EE4), London, S.W.11.

You are offered free the advice of Price's Technical Bureau.

Send your oil problems to Price's.

MOTORINE

very special oil

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

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.

Way

OUR USED CARS ARE GUARANTEED

AUSTIN, 1927, 7 h.p. Chummy, immediate delivery ..	£145
" 1926, 7 h.p. Chummy model, excellent condition ..	£110
" 1925, 7 h.p. Chummy model ..	£98
A-C, 1925, all aluminium sports 2-seater ..	£185
CITROEN, 1925, 7 h.p. 2- and 3-seaters, also Coupes from ..	£60
1925, 11 1/4 h.p. English Body 4-seater ..	£95
CLYNO, 1925, 2- and 4-seaters from ..	£85
FIAT, 1926, 10/15 h.p. 4-seated Saloon, F.W.B. ..	£225
1925, 10/15 h.p. 4-seated Saloon ..	£185
RÖVER, 1925, 9/20 h.p. 2- and 4-seaters from ..	£95
SINGER, 1925, 10/26 h.p. 4-seater, excellent condition ..	£125
STANDARD, 11 1/4 h.p. 4-seaters from ..	£85
SALMON, 1926, Grand Sports 2-seater, as new ..	£195
WOLSELEY, 1925, 11/22 h.p. 2- and 4-seaters from ..	£85

100 OTHER BARGAINS from £25 to £250
Easiest Deferred Terms on any make of New or Used Car.

The Light Car Co.

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

'Phones

Museum 3081, 2122 and 0140.

LAYSTALL DE LUXE LIGHTWEIGHT CAST- IRON PISTONS and LAYSTALL CYLINDER-GRINDING

Go hand in hand for the Best Results

De Luxe Pistons are now also made in aluminium for Sports and Racing cars, and are the lightest pistons in the world.

WRITE FOR FREE BOOKLET

LAYSTALL

EWER STREET, LONDON S.E.1
FONTENOY ST., LIVERPOOL

Telephone
LIVERPOOL 1212

FOR BEST
SERVICE &
TERMS

GAMAGES

THE
MOTORIST'S
OWN STORE

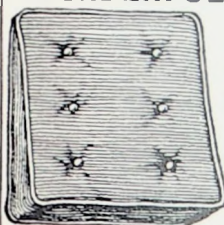
Great Display of Accessory Specialities for the Car

GAMAGES for Your NEW Car on Deferred Payments.

Delivery on First Deposit. 5% on'y is added to Balance. We finance our own Transactions, thus ensuring the confidential handling in every instance.

ALL MOTORISTS should have a copy of the GAMAGE CATALOGUE—Mention "The Light Car and Cyclecar."

WONDERFUL OFFER



DRIVER'S BACK CUSHIONS

Made of high-grade grey peganoid. They fit into small of the back and give comfortable support just where needed.

Post Free

21/-

Also in Black, Blue, Green, or Brown Leather.

25/-

"BOYCE" MOTOR METER.

This handy little instrument when fitted into the Radiator Cap of your car will at once indicate any defect in the running of your engine, such as friction, faulty mixture, or irregular firing, which would cause overheating.

Prices:

De Luxe Model £3 3 0

Standard ... £2 10 0

Universal ... £1 15 0

Gem ... £1 1 0

Special Ford ... £1 2 6

PETROL CLEANING BRUSH

Quickly and safely removes dirt and grease from soiled clothes, car upholstery, etc. Simply fill it with petrol, and brush the article to be cleaned. Price, complete with 2-pint tin of cleaning spirit, Post Free.

10/6

CLEANING CLOTH



Fine and soft, yet of good wearing qualities. Far superior to Mutton Cloth or Cotton Waste. Made up into 50 and 25-yard rolls.

50-yard Roll 5/- 25-yard Roll 2/9

The GAMAGE WATER BRUSH



Specially designed to get at all the most awkward parts. Made of the best quality bristle with a mop head. Will take any size hose without extra fitting. Post Free. Price

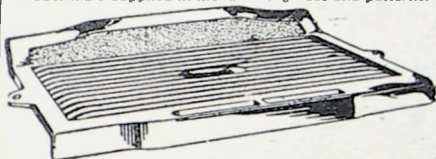
10/6

"AUTOMATS."

STEPMATS WITH COMBINED KICK-PLATE & FOOT-SCRAPER.



Model Nos. 695 and 696. "Automats" are the biggest value ever offered in low-priced step mats. The frames are made of special aluminium, highly polished, and are complete with kick-plate and scraper. Fitted with hard-wearing rubber mats supplied in the following sizes and patterns.



Model Nos. 697 and 698.
Model 695. With bar pattern mat, size 12 x 8in. 7/6
" 696. " 13 1/2 x 9in. 9/6
" 697. With bristle pattern mat " 12 x 8in. 9/-
" 698. " 13 1/2 x 9in. 11/-
" Carriage Free.



The IDEAL LIGHT CAR FOOT PUMP

Strong and well made, powerful, compact, inexpensive, and very greatly lessens the labour of tyre inflation.

Price 12/6

EASY LEAF SPRING

Enables you to grease your springs with a minimum of trouble. The simplest and easiest to operate on the market, being far in advance of those operated by screw arrangement. The adjustment once set, you can go round

the whole lot and open up the most obstinate spring with the greatest ease. Price

6/6



SPECIAL OFFER OF DUST COVERS

For Austin 7 Cars, size 12'x9' 15/- Also Water-proof ditto, 47/6

SPECIAL VALUE.

OIL DRUM PUMPS.

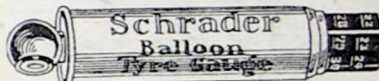
Do away with the chance of getting smothered in oil. Well made and strong at a price within reach of all. To fit 5-gallon drums.

Price 7/6

Carriage 6d.



BALLOON OR LOW PRESSURE TYRE GAUGE.

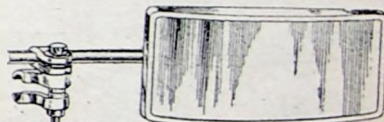


Calibrated in units of single pounds, from 10 lbs. to 47 lbs. Post Free.

6/10

Price

"SCOPE" MIRRORS



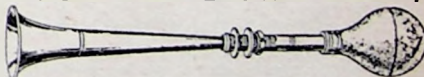
Nicely finished and of strong construction. Gives very large range of vision owing to the shape reflector. Hundreds of these have already been sold—a better mirror cannot be obtained at the price.

7/9

Post 6d.

Order One per Return.

REMARKABLE VALUE IN SPECIAL SPORTS HORNS FOR THE LIGHT CAR.



Through dash fitting. Nicely made and finished. Gives a very uncommon and penetrating note. Price

6/6

Post 6d.

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.

17/6

Price

A.W.GAMAGE, Ltd., HOLBORN, LONDON, E.C.1

CITY BRANCH: 107, CHEAPSIDE, LONDON, E.C.2

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

PRIVATE OWNERS' OPINIONS.

28/4/27.
 "My De Luxe model is going very well. I naturally came across some quite good hills in Devon and she took them almost as if they had not existed."
 21/2/27.
 "The car is giving every satisfaction, and is a great joy and pleasure to drive."
 18/2/27.
 "The car has run extraordinarily well and in my opinion is far superior to many cheap light cars."
 7/3/27.
 "I have driven this excellent little bus several thousand miles and you should be proud of it. It is in my opinion right at the top of the tree."

The Omega
 Family Model.

Luxury Travel

is not for all, in the shape of high-powered expensive Cars. To the man whose funds are limited, the Omega affords an inexpensive yet thoroughly reliable means of enjoying to the full all the pleasures of the owner-driver.

Fitted with 8 h.p. J.A.P. engine, quarter elliptic springing front and rear, smart dummy radiator, well upholstered, roomy and completely weather-proof, electric dynamo lighting by 5 lamps, running 50-55 miles to the gallon. Tax only £4.

Take the open
 road in comfort
 on an

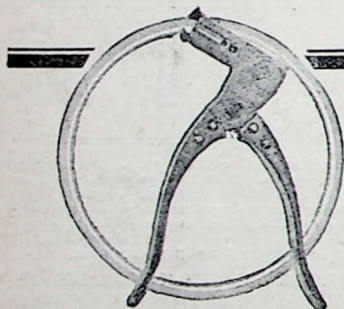
OMEGA

Write to-day for
 our Catalogue.

W. J. GREEN, Ltd.,
 Omega Wks., COVENTRY.

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

PRICES :
 POPULAR Model £95
 DE LUXE " £110
 FAMILY " £115
 SPORTS " £125



"Autocar" of the 18th of March says :

"This tool makes cotter pin extraction a matter of a second and a positive pleasure to perform. No straightening of the pin's end is necessary, and all that has to be done is to squeeze together firmly, but by no means forcibly, the handles of the tool, when the cotter pin is drawn out with as much ease as a loose cork may be extracted from a bottle. This tool is one, which from test, we can thoroughly recommend to be kept in the kit of every car."

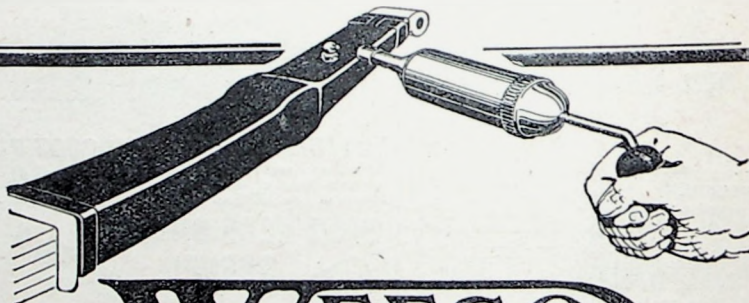
JUNIOR 10/- HEAVY DUTY 15/-

WEFCO SCREEN WIPER BLADE.

Without Continuous Wiping
 Keeps Windshield Clear.

RUBBER wipes off dirt—FELT puts on a chemical that keeps vision-area on windshield clear for hours without continuous wiping, in rain, mist, fog, snow.

Over 100,000 a month being sold.



WEFCO

PATENT
 MOTOR
 ACCESSORIES

WRITE FOR FULL PARTICULARS OF THE NEW WEFCO LINES WHICH INCLUDE:

Tyre Repairing Outfits.
 Cotter Pin Extractors.
 Windscreen Wiper Blade.
 Inner Tube Testing Bath.
 Oil Draining Tank.
 Oil Pumps.
 Foot Pumps.
 Petrol Pourers.

Luggage Carriers.
 Radiator Muffs.
 Steering Joint Covers.
 Spare Wheel Covers.
 Brake Drum Silencer Bands.
 Waterproof Lacquer.
 Dill Instant-On Combination
 Dust and Valve Cap.

Sole Distributors for Europe and the British Colonies :

WILCOT (Parent) Co., Ltd., FISHPONDS, BRISTOL.

'Phone: Fishponds 119.

London Office: Morley House (opp. Polytechnic), Regent Street, W.1.

'Phone: Mayfair 1575 and 1576.

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.

Special Features of this week's issue

The Motor

Tues., May 3rd

NEXT WEEK'S GREAT SIX-HOUR RACE.

Sunbeam versus Bentley and Lea-Francis versus Alvis in
Exciting Brooklands Event: Plan of the Course.

NEW ROUTE FOR LONDON-EDINBURGH.

Interesting Mountain Section to Keep Competitors Awake.

NOVEL EXPERIMENTS WITH A SLIPPING CLUTCH.

New Ways of Explaining the Meaning of Engine Torque
and Horse-power.

AUTOMATIC TRANSMISSION ON NEW PRINCIPLE.

Novel Inertia Gear which Varies the Ratio Automatically
in Accordance with the Load and Power Output.

TWO CARS PER FAMILY.

2,700 000 Families in the United States Possess More Than
One Car.

MOTORING FASHIONS TO-DAY.

What is Being Worn by Women Motorists This Season.
By the Hon. Mrs. Victor Bruce.

ROAD TESTS SHOWING PRINCIPAL CHARACTERISTICS.

The Six-Cylinder 2-litre Itala Saloon: The 16'5 h.p. Erskine
Saloon.

J.C.C. SPRING MEETING AT BROOKLANDS.

Interesting 15-lap Obstacle Event.

NEXT WEEK!

GARAGE EQUIPMENT NUMBER OF "THE MOTOR."

Articles dealing with the Fitting up of Large and
Small Private Garages and the Equipment of
the Small Repairman's Workshop, etc.

FREE BOOKLET ON MOTOR PICNICKING.

Fifty-two Menus. One for every Week-end of the
Year.

Many Hints and Tips and Informative Articles.

Postal Subscribers will receive their Copy through the
Post.

PRICE 4d.

OFFICES: 7-15, ROSEBERY AVENUE, LONDON, E.C.1

There

9 Owner says :—

"The results have been excellent. First, the question of easy starting on frosty mornings has been completely solved; in fact, I have never had a failure yet. Secondly, the consumption is very good indeed. The acceleration has been improved beyond recognition. The speed is 2 or 3 miles an hour faster than previously."

Model 'K' Illustrated fits the following :

Rover 9 Fiat 9 Wolseley
Singer 8 Amilcar Lea-Francis
Singer 10

It costs £3-10-0 only.

Compare the—
IMPROVED Acceleration.
BETTER Performance.
GREATER Economy.

Hundreds of your fellow motorists have proved our Claims to their satisfaction.

BROWN & BARLOW, LTD.,
Carburettor Works, Witton,
Birmingham.

**Why not try one on
YOUR Rover 9?**

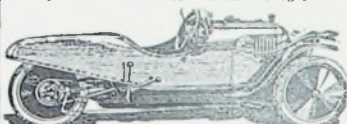
London Service Agents:
Dartford Eng. & Carriage Co., Ltd.
23/24, Hythe Road,
Willesden, N.W.10.

**A B & B Carburettor for YOUR
Car will be supplied on
30 DAYS APPROVAL**
under our money back guarantee
PROVE OUR CLAIMS

WELL ON THE ROAD TO SUMMER PLEASURE IN

A LIGHT CAR FROM HOMAC'S

A light car for light and brighter Summer days from Homac's, backed with Homac's genuine service that guarantees trouble-free motoring. Homac's specialized knowledge and advice is impartial—free—and yours for the asking. Investigate this now and let Homac's put you on the road to real motoring pleasure.



**MORGAN
PRICES
REDUCED**

STANDARD Model -	£89	FAMILY, water-cooled -	£121
DE LUXE, air-cooled -	£110	AERO, water-cooled -	£127
FAMILY, air-cooled -	£111	AERO, 10-40 h.p., Racing -	£140
DE LUXE, water-cooled -	£120	SELF-STARTER	£10 extra.

Immediate deliveries of CITROËN & ROVER

DEFERRED TERMS ARRANGED
WRITE FOR CATALOGUE

**REPAIRS and
OVERHAULS
BY MORGAN
EXPERTS.**

Full Stock of Genuine
MORGAN SPARES
Trade Supplied

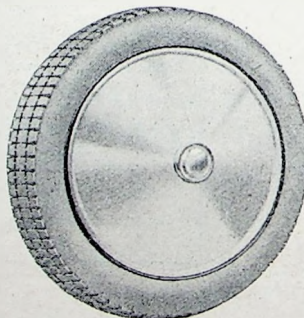
243/7, LOWER CLAPTON ROAD. Works : 46, London Rd., Clapton, E.5
Phone : Clusoid 2408.

SUPER DISCS. FOR YOUR AUSTIN SEVEN

The illustration below shows the wire wheel of an Austin Seven fitted with Ace Super Discs. They give a smart and distinctive appearance to the car and save much valuable time in spoke cleaning. The discs are made in seamless aluminium with locking ring attachment for the outer disc. Fitting is a simple matter, a screwdriver being the only tool necessary.

Price £6/10/0 complete for five wheels.

Ace Super Discs can be supplied in suitable sizes for all types of wire and artillery wheels, also for American wood spoked wheels with demountable rims.



Write to-day for
latest
Illustrated Lists.

**Cornercroft Ltd.,
Ace Works,
Vecqueray St.,
COVENTRY.**

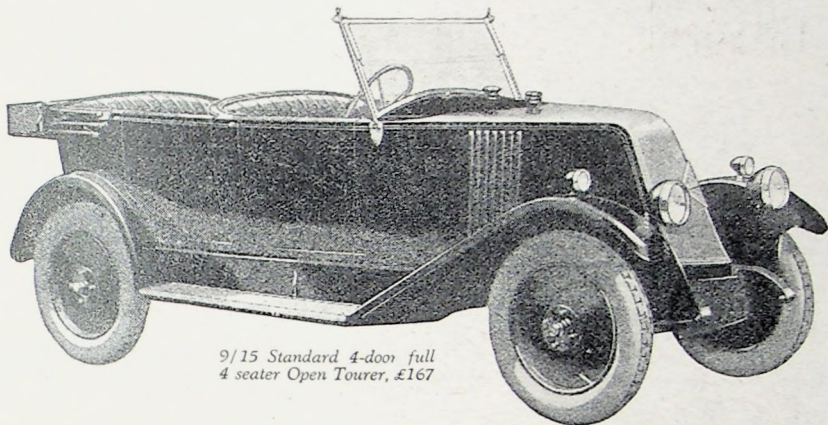
'Phone : 4123.

'Grams :

"Discs, Coventry."

**THE WORLD'S BEST DISCS
FOR ALL WIRE & ARTILLERY WHEELS.**

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

45**M.P.G.****M.P.H.****45**

9/15 Standard 4-door full
4 seater Open Tourer, £167

RENAULT 9/15

Do not cramp your enjoyment. Choose a full-sized four seater RENAULT and ride in comfort. With four doors, shock absorbers, clock, speedometer and four-wheel brakes, it costs only £167 and gives 45 miles of fast, dependable travel to every gallon of petrol. Write for illustrated literature and full technical specifications of the RENAULT 9/15 models—the greatest range of car values ever offered.

RENAULT LTD., Head Office and Works,
14, Seagrave Road, West Brompton, S.W. 6.
Showrooms, 21, Pall Mall, S.W. 1. (Phone: Regent 0974)

Two seater with double dickey,
£159 10s. Full four seater
Standard Open Tourer, £167.
De Luxe four seater Tourer,
£179. Saloons from £207.

Models from
£159·10

PRICES INCLUDE 4 WHEEL BRAKES

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.

THE consistency of the merits of SPEEDOLENE is proved again by the following results:—

TOURING TROPHY TEST at Montlhery

The only competitors who finished the course in the car class are those who used SPEEDOLENE "T."

Cars 500 c.c. Class	1 st	M. Dore on "Sima Violet" won the Ansaldo Cup.
Cars 750 c.c. Class	1 st	Rigal on "Peugeot" won the cup of the Automobile Club of the Isle of France.
Cars 1,100 c.c. Class	1 st	Devaud on "Amilcar" won the Paris Automobile Club Cup, and put up the greatest distance of all competitors.
Cars 2 litres Class	2 nd	Lavocat on a "Senechal"
	1 st	Hellot on a "Fasto."

Special series of brochures and full particulars sent on application.

SILVERTOWN LUBRICANTS, LTD.
Minoco Wharf, West Silvertown. E.16.

NOW FOR WEEK-END HOLIDAYS!

WATERPROOF FABRIC

TRIPLE STRENGTH

Find a nice spot, pitch your Tent (with Extension as fig. 2) and have your Lunch in comfort whilst gazing on the surrounding Country. You will find "KAR-KAMPS" everywhere.

ROTPROOF

PATENT
BRASS
FASTENERS
NO TAPES
OR CORDS
LIGHTWEIGHT
METAL JOINT

TRIPLE STRENGTH

"KAR-KAMP" TENTS

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

Send for illustrated Folder and sample of Fabric to:—

KAR-KAMPS LTD. (Dept. A), 29, Cannon Street, MANCHESTER.

Manufacturers of Tents, Dustproof and Waterproof Motor Covers.



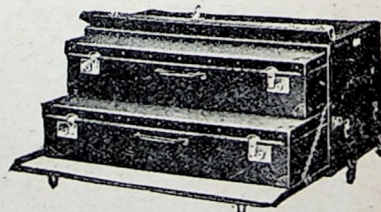
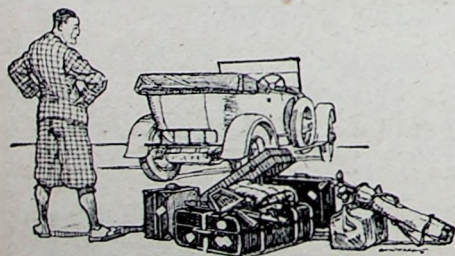
Fig. 2.

Patent applied for.

Can be supplied with Patent extension at extra cost, 7/6 to 10/6, according to size, as per Figure No. 2.

ERECTED IN TWO MINUTES
MAY BE FASTENED FROM INSIDE OR OUTSIDE
DELIGHTFUL FOR THE GARDEN.

Solve your
luggage
problem
so →



BROOKS
REGISTERED TRADE MARK

and **BROOKS BUILT**



MOTOR TRUNKS

J. B. BROOKS & Co., Ltd., 73, Criterion Works, Gt. Charles St., BIRMINGHAM, or 74, Margaret St., London, W.1.

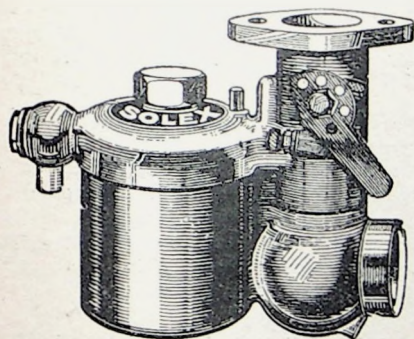
WHEN REPLYING to advertisements, mention "The Light Car and Cyclecar." It helps the advertiser and you, and assists the small car movement generally.

Your first Touring Need!

When overhauling your car for the season, make your first thought "Solex." Assure yourself of more miles per gallon and greater engine efficiency, no matter what make of car you own. "Solex" efficiency is proved by the testimony of thousands of "Solex" users. Send for details of our FREE Trial Offer.

SOLEX

THE NO-TROUBLE CARBURETTOR



Read what "Solex" Users say

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 4 up."

Our Free Trial Offer!

Ask 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.

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

SOLEX LTD.

Director GORDON RICHARDS

SOLEX WORKS,
223-231, MARYLEBONE ROAD, LONDON, N.W.1

Tels.—Paddington 8621, 8622, 8623, 8624, 8625, 8626.
Telegrams—"Solexcarb, Baker, London."

'fit Solex—and note the difference'

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

Goodall Ad.

B7

The MOSAIRE SPIRAL VALVE & EASY STARTING DEVICE

"Mosaire"

Registered Trade Mark.

THE
"MASTER"
EXTRA AIR VALVE
and
EASY STARTING DEVICE.

MOSAIRE

HORIZONTAL CARBURETTOR

SEMI-AUTOMATIC
PRICE - 35/-

Complete with Joints, Bolts, or Studs; also Bowden Wire and Lever, either for Steering Column or Side Fitting.



Patent Nos. 221,157 and 223,182.

Fitted with the
Copper Coil
Diffusing Ring.

PRICE:
Hand Operated 30/-

Complete with Joints, Bolts or Studs; also Bowden Wire and Lever, either for Steering Column or Side Fitting.

Automatic (Rubber Diaphragm Type) without Bowden - 30/-

Automatic, with Bowden complete - - - 40/-

IMPORTANT MODIFICATION to the "MOSAIRE."

SINCE the "Mosaire" Device was introduced at Easter, 1925, there have been drastic variations in prices of the only Extra Air Devices that held the market.

No. 1 was reduced from 45/- to 35/-, and now is offering a special model for Cowley at 25/-.

No. 2 Reduced from 37/6 to 30/-.

No. 3 Reduced from 37/6 to 35/-, and then to 30/-.

—which proves conclusively that something had upset their sales.

The "Mosaire" was put on the market at a reasonable price, and embodied several scientific improvements covered by our Patents, and it is recognised as the "Master Extra Air Valve."

Thousands have been supplied, and unsolicited letters of appreciation are coming in by every mail, both from home and abroad. Send for our 54-page Booklet giving full particulars and the opinions of Owner-Drivers on various makes of cars under all sorts of conditions.

We appreciate the objection the Technical Engineers have against the use of an Extra Air Device, and that is the increased amount of extra air admitted when the engine has been slowed down for corners, etc., unless the Valve is shut off, and to overcome this difficulty we have introduced a new design "Air Inlet" which takes the place of the ordinary Air Inlet supplied with the Hand-operated type, and this method functions with the accelerator, and cuts off the extra air when slowing down without any attention from the driver.

THE SEMI-AUTOMATIC IS ALSO AN EFFICIENT AIR-BRAKE.

This modification will be advertised as the "Semi-Automatic" because a Bowden Lever is necessary, but only for setting the amount of extra air to be admitted, and after being set the air inlet opens and closes with the accelerator.

This is undoubtedly the Novelty of the Season

Price—35/- per set complete.

Send for illustrated leaflet describing method of operation.

We have reduced the HAND-OPERATED DEVICE TO 30/- FROM MAY 1st, 1927, which may be preferred by some Owner-Drivers, but the Semi-Automatic is undoubtedly better, and possesses all the details of the Hand-operated original Mosaire, plus the advantages of not requiring any attention when slowing down, etc.

This device is exactly what the Owner-Driver has been looking for. Send for it Right Now and you will be delighted with the results.

The Mosaire is a "FRONT RANK DEVICE" of the highest merit.

ALDAM & CO. (M. Dept.), Misterton, DONCASTER

Distributors for Birmingham and District: ASHTON ENGINEERING CO., LTD., Floodgate Street, Birmingham.

IT WILL
ASTOUND
 YOU TO SEE OUR DAILY LISTS OF 100 SMALL CARS WHICH CAN BE BOUGHT
UNDER
£100

Every car carries
 our full guarantee
 and is also open to
 A.A. or R.A.C.
 examination.

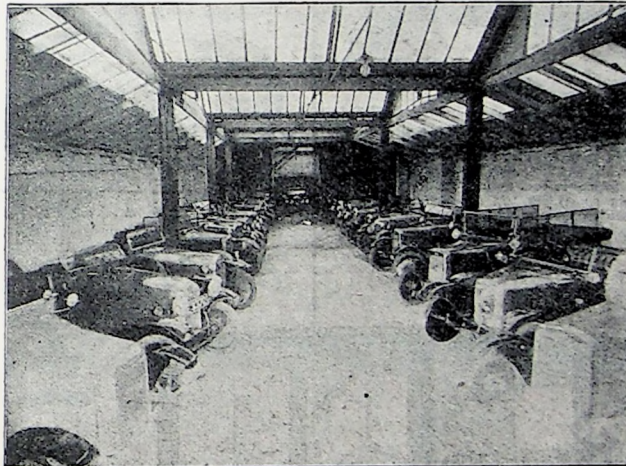
Almost every
 make in stock
 —all under
 12 h.p.

From a cheap little Runabout such as the 1921 Rover "8" at £28 to almost any 1925 or 1926 model of all the popular makes up to £99, any of which you can buy on our remarkably elastic terms ranging from such a low initial payment as one-tenth of the purchase price down or any larger deposit to suit yourself.

Let us forward you our Brochure, "Ways and Means," which will give you full details of these.

Exchanges.

We will quote you
 a definite allow-
 ance per return
 for your present
 machine on receipt
 of full particulars.



Delivery.

No matter where
 you are we will de-
 liver (and collect if
 part exchange) any-
 where in England,
 Scotland or Wales
 for £2-10-0 extra.

WE CANNOT TOO STRONGLY EMPHASIZE
 that you do not place yourself under the slightest obligation whether you

WRITE

for our daily lists even
 if you are just curious
 as to what can be bought
 under £100.

'PHONE

to see if we have your
 favourite make in stock,
 if not to-day, try again
 to-morrow.

or **CALL**

and walk round
 our stock—nobody
 will worry you.

WHATEVER YOUR PROPOSITION—OR WHEREVER YOU ARE

— Buy it Under a £100 —

AT

Benmotors
 THE CLEARING HOUSE FOR SMALL CARS

Next to the New Town Hall,

30-32, HIGH ST., WANDSWORTH, S.W.18.

Nearest Station CLAPHAM JUNCTION.
 All Buses and Trams pass the door.

Telephones: BATTERSEA { 2425
 2428
 Telegrams: "Benmotas, Wands, London."
 Hours 8.30 to 8.0 except Sundays

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

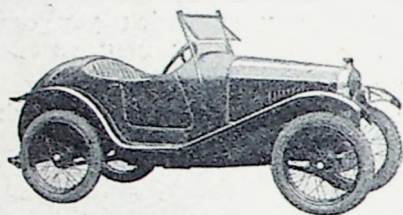
B9

Greater luxury in light cars

Gordon England Ltd.
can give
IMMEDIATE DELIVERY
of the following
AUSTINS:

ENGLAND Silent Saloons ..	£195
ENGLAND Cup Models (Sports) ..	£165
Austin Seven Chummy Models ..	£145

Large stock of good used Austin Sevens of all kinds at bargain prices. Visit the showrooms at 28, South Molton Street and make your own selection.



The ENGLAND Cup Model, £165

Complete with all-weather equipment, rigid side curtains opening with the doors, real leather pneumatic upholstery, carpet, step mats, automatic windscreen wiper, etc., and **unsplinterable glass** screen, the "England" Cup Model gives better performance and greater comfort than any other light sports car. 55 m.p.h.—average over long distances 35-45 m.p.h.

"England" Saloon and Cup Models on Austin Sevens can also be obtained through all Austin Agents.

AMAZING comfort, unequalled economy, and extraordinary road-performance — that's what you get with the "England" Austin Seven Saloon. The unheard-of lightness of the "England" body (weighing less than a child!) makes average speeds of 35 miles an hour up hill and down dale a normal performance. It will do 50 m.p.h., 50 m.p.g. The total cost of running over all is under 20/- a week for a mileage of 12,000 a year. And comfort—well! Settle yourself down on its luxurious pneumatic cushions, drive it 300 miles in one day, and you'll still feel fresh as paint. No "drumming" of the body to rack your nerves. No vibration. No body noises. The patent "England" body is completely insulated from the effects of uneven roads—perfectly rigid—absolutely silent. After twelve months' hard use it will still be as luxuriously quiet as when new. Write to Gordon England Ltd. for a booklet describing fully the

England

SILENT SALOON ON
AUSTIN SEVEN

£195

Fully equipped with spare wheel, carpets, ceiling light, etc., and **UNSPLINTERABLE GLASS.**

✱ **England Bodies** can be built on any chassis. Their patent lightweight but rigid construction means increased speed, quicker acceleration, better hill climbing, lower running costs, freedom from body noises, and elimination of driving fatigue. Write for the booklet "England Lightweight Body Work," to

GORDON ENGLAND LTD., 28 SOUTH MOLTON ST., W.1 (Phone: Mayfair 6378)

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.



MOUNTAIN
SOLITUDES.

On the road to Lochinver in the north-west of Scotland. Clouds enshroud the mountains above Loch Assynt, whilst on the island is the ruined castle of Ardvreck.

NOTES, NEWS & GOSSIP *of the* WEEK

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LIGHTING-UP TIMES (Rear Lamps) for Saturday, May 7th.

London ..	2.0	Birmingham 9.11
Newcastle ..	9.20	Liverpool .. 9.21
Edinburgh ..	9.30	Bristol .. 9.10
Moon—First Quarter, May 8th.		

British Cars in South Africa.

According to Reuter, 196 British-made cars, valued at £38,590, were imported into the Union of South Africa during December, 1926. Imports of American cars totalled 1,190.

Spanish Motor Show.

At the fifth International Automobile and Aeronautic Sport Exhibition, which was opened in Barcelona on April 28th, British firms were amongst the 548 exhibitors.

British New Zealand Delegation.

A delegation representing the S.M.M. and T. will arrive in New Zealand on June 5th, and will remain there about three weeks, during which time the delegates will inquire into the possibility of increasing trade in British cars.

This Week.

An article entitled "Steam Engines for Light Cars" appears in this issue, and will be found to be of considerable interest. Our series, "Light Cars in the Making," is continued with an article which describes forging and presswork methods. The J.C.C. Spring Race Meeting is described fully, and we give details of a new Berliet chassis. Our centre pages are devoted to an instructive article on gear changing entitled "Why Crash Second?"

No. 752. VOL. XXIX.

Singer Capital Increase.

With the intention of competing in foreign markets Singer and Co., Ltd., are doubling their capital by the issue of a further £500,000 Ordinary shares.

New London-Edinburgh Course.

The route for the next M.C.C. London-Edinburgh run will be the same as last year's as far as Moffatt, where a new section through beautiful country via St. Mary's Loch and Newbigging will commence; this section will stiffen up the trial somewhat.

Next Week.

The Essex Motor Club's six-hour endurance race, to be held to-morrow, May 7th, at Brooklands, promises to be both interesting and instructive, and the performances of the light cars will be described in detail in our next issue. In addition we shall publish an interesting article entitled "The Log of an Ordinary Owner," whilst our series, "Famous French Factories," will be continued, with a description of the Berliet works.

Petroleum Exemption.

The Board of Trade has given notice of the intention to exempt petroleum and its liquid products from the requirement that imported goods bearing a British name or trade mark must be accompanied by an indication of origin.

100 Per Cent. Performers.

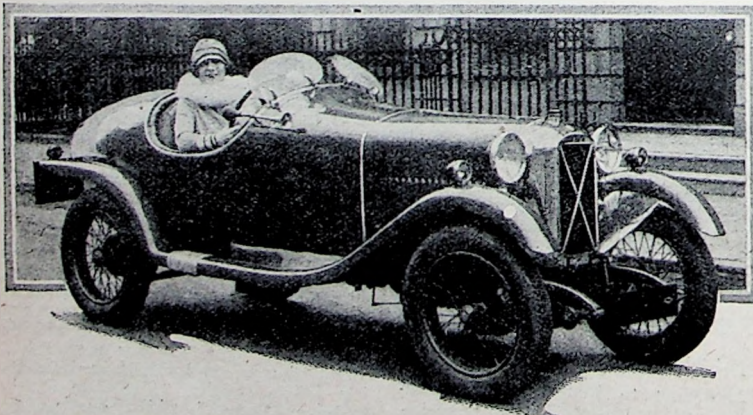
Amongst the makes which scored 100 per cent. performances in the M.C.C. London-Land's End trial are Trojan with four starters and four gold medals, A.C. and Newton-Ceirano each with three starters and three "golds" and Palladium with two competitors and two first-class awards. Those who scoff at inexpensive cars would do well to bear in mind the remarkable performance of the Trojan team.



Mr. T. G. John, managing director of the Alvis Car and Eng. Co., Ltd., and president of the Ace Motor Club.

Touring in Central Europe.

The Black Forest, Bavaria and the Tyrol are districts dealt with in a most interesting manner in a new book entitled "Motor Rambles in Central Europe," which was published recently by Methuen and Co., Ltd. The author, Mr. Frank C. Rimington, deals with his subject in a fascinating manner, whilst the text is illustrated by six plates in colour, ten photographs and a map.



BOTH ARE
FAVOURITES.

B12

The well-known film star, Miss Queenie Thomas (Mrs. George Newman), at the wheel of her Grand Sports Salmson recently supplied by Messrs. George Newman and Co.

Austin Success.

The Nias cup and gold medal were won by H. Nickless, in an Austin Seven, against a strong field of motorcyclists in the Cranford Motor Club's non-stop trial. The Nias cup was the premier award.

Women at Monthéry.

A women's day is to be held at Monthéry on June 12th, when a feminine championship will be organized. In addition to the speed events there will be separate competitions for good driving, car appearance, and for feminine motor-cycling costumes. The event will end with a dinner, dancing and fireworks.

Swiss Motoring Regulations.

As a result of negotiations between the Swiss Automobile and Touring Clubs, the International Tourist Office and the Federal authorities, motorists may now enter Switzerland without being in possession of a costly *tryptique*. A provisional card of entry will be used, and will be valid for one week at a fee of 1.50 frs., or for ten days at a fee of 2 frs. These regulations will be welcomed by British motorists.

Road Repairs.

We learn that the following road repairs are in progress:—

Barton Mills Culvert on the Newmarket-Thetford road is being reconstructed and traffic should proceed with great caution.

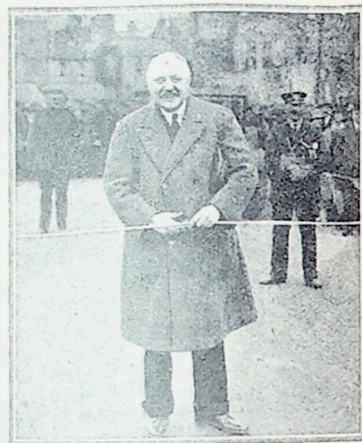
The new road and bridge at Croxdale, Durham, will be closed for about a week to permit of adjustments to the road surface. Traffic will use the old Sunderland Bridge, which adjoins the new bridge.

The tramway junction at Newport Road, City Road and Glossop Road, Newport, is now being reconstructed. Traffic wishing to pass this point will be diverted from City Road through Elm Grove and Wadsworth Avenue.

Reconstruction works are in progress on the Totton-Redbridge Road, Hants. The authorities in charge of the work report that motorists appear to be ignoring the warning notices and approach the works at too high a speed for safety. In their own interests and those of the men at work, all drivers are requested to approach the sections under repair with caution.

Citroën Dispute Settled.

The labour dispute which occurred recently at the Grenelle works of the Citroën Co., has been settled and work is again normal. The trouble was due to the men's protest against the reduction of wages, and 10,000 employees were involved.



Lord Leconfield, Lord Lieutenant of Sussex, "opening" Norfolk Bridge, Shoreham after it had been freed from tolls.

The Nurburg Ring.

The official opening of the Nurburg Ring, Germany, will take place on June 18th, says Reuter, and from June 19th it will be free to motorists of all nations except when definite races are in progress.

An Official Slip.

We learn from Rootes, Ltd., that recently a phonogram addressed to them at Devonshire House, London, was not delivered, the reason given by the General Post Office being that the premises were demolished. Rootes, Ltd., announce that there is no truth in this statement!

Rubber Growing Competition.

It is stated that a rubber growing enterprise with a large capital has been set on foot by a New York syndicate for the purpose of exploiting the rich rubber-bearing lands of the Amazonian region of Bolivia. It is suggested that the object of the syndicate is to break the British monopoly of rubber. There are already six companies, two of which are British, engaged in the exploitation of Bolivian rubber.

Touring in Spain.

A woman associate-member of the R.A.C., accompanied by her daughter, recently undertook a tour through France and Spain to Gibraltar in a light car. A few months ago the R.A.C. Touring Department would have advised against such a trip being undertaken, owing to the bad roads and inferior hotels. So great has been the improvement in touring conditions in Spain during the past year, however—mainly due to the efforts of the Real Automovil Club de España—that this lady reported on her return that she had had a most comfortable journey and found the hotels everywhere most hospitable.

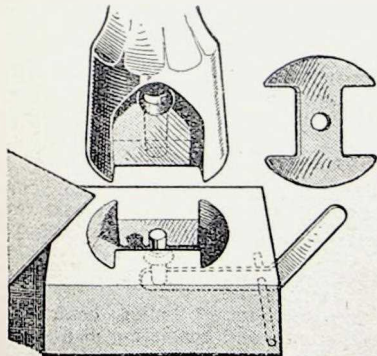
Major Segrave to Retire.

Major H. O. D. Segrave is stated to have announced his intention to give up motor racing at the end of this season. His many admirers will regret his decision, but there are still a few races in which he will be taking part, amongst them being to-morrow's Six-hour Endurance Race at Brooklands.

Service for Peugeot Owners.

In accordance with the old-standing policy of Peugeot (England), Ltd., of leaving nothing to chance, some interesting extensions and developments have recently taken place at the London service depot, which is at Filmer Road, Fulham.

We were particularly interested in a simple but practical test bed, on which every new car is placed, and repair jobs also, when necessary. The car is run up a ramp so that the back tyres engage on two pairs of wooden pulleys. A simple braking system, whereby a wooden brake shoe is applied to a driven pulley at a known pressure indicated by means of a spring balance, provides a variable load. No attempt is made to measure the actual horsepower developed, but the performance of each car is in this way easily and accurately checked against known standards. At the same time an accurate test is made of the dynamo output and any car which does not perform satisfactorily goes back to the testers. Some hundreds of cars are received, tested and despatched monthly, and scores of cars can be worked on simultaneously in the repair bays, but to the credit of the manufacturers let it be said that the repair department rarely works at anything approaching full pressure.



A punch and die for stamping out magneto armature laminations. See "Light Cars in the Making" in this issue.

Increasing Revenue.

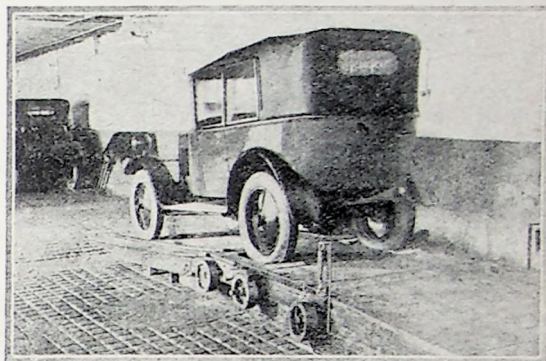
A report issued by the county accountant for Cumberland shows that in connection with the Road Fund licences the duty collected for the three months ended March 31st last amounted to £67,248 2s., the number of licences issued being 12,599. The corresponding figures for the same quarter last year were £64,070 6s. 2d., and 12,580, the increase in revenue for the first three months of the year being £3,177 15s. 10d. Compared with the first three months of the year 1925 the increase in revenue amounts to £6,570 11s. 2d.

I.O.M. Traffic Control.

At the request of the Isle of Man authorities an R.A.C. guide has been employed in the Isle of Man during the past six weeks in demonstrating to the Manx police various methods of traffic control. The guide delivered a number of lectures and gave a series of practical demonstrations, assisted by the members of the Manx Automobile Club.

Royal Air Force Display.

The eighth annual Royal Air Force Display will take place on Saturday, July 2nd, at Hendon Aerodrome. As a result of this flying ground now being the property of the Air Ministry, traffic facilities in the neighbourhood will be considerably improved, and in addition a grandstand with a seating capacity of 5,000 is in the course of erection.



At the London service depot of Peugeot (England), Ltd., this novel test-bed is used for checking the performances of new and overhauled cars. It is described in an accompanying paragraph.

New Anti-dazzle Device.

An interesting anti-dazzle headlamp which consists mainly of a movable lamp bulb, has been patented by two engineers. In operation the bulb, together with part of the reflector, is drawn back by means of a Bowden wire, thus throwing the main beam out of focus and diffusing part of the light.

New Picnic Site.

Picnic enthusiasts will be interested to learn that Petts Woods, Chislehurst, Kent, will be open to the public this month, as a memorial to the originator of Summer-time. The woods, which are 80 acres in extent, abound with wild flowers. A statue to Mr. Willett is being erected at the entrance.

MOTERING MATTERS IN PARLIAMENT.

DURING the discussion of the Budget resolutions on the report stage, a strong attack was made upon the Chancellor of the Exchequer for his raid on the Road Fund. It was opened by Mr. Snowden and developed in other parts of the House, irrespective of party.

Mr. Snowden stated that, out of the 150,000 miles of roads in England and Wales, only about one-fifth are classified as county roads; the remainder, known as second and third class, are ill-adapted to carry the motor traffic which they have to bear. Instead of the State contribution to the roads being reduced, it ought to be increased.

Mr. Ian Macpherson quoted the actual statements made by previous Chancellors to support his argument that the road taxation levied upon motorists was intended to be spent solely on the roads and for no other purpose. Mr. Lloyd George, when he originated the Fund, said: "This is purely a tax raised to enable us to set aside a fund for the improvement of the roads of the country." Successive Ministers of Transport had said the same thing. A Unionist Member, Major Carver, confessed that he had considerable misgivings with regard to Mr. Churchill's proposals, and insisted that money was wanted not only for roads, but also for bridges and for dealing with level crossings. He declared that it was difficult to approach Hull because of level crossings and that the same trouble is experienced in many other parts of the country.

The only reply which Mr. Churchill made in the course of a lengthy speech,

marked by his usual brilliance of dialectic, was that no class of taxpayers had any right to prescribe the conditions or the methods by which compulsory taxes of the State were exacted, or the disposition of these funds. The remainder of his speech was a series of arguments to the effect that a hard-up Chancellor of the Exchequer was entitled to get revenue wherever he could find it. Stripped of its rhetoric, the speech meant that an additional tax has been placed upon motorists to relieve other people from paying more in order to fill up the big deficit in the year's finances.

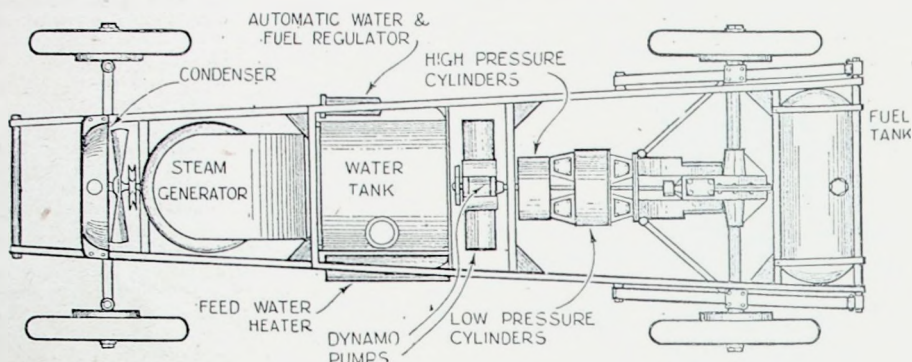
If the proposals of the London Traffic Advisory Committee are adopted, it will mean that the roundabout system of motor traffic will be adopted in the near future at the two triangles to the west of the Mansion House. The Minister of Transport is now in consultation with the City authorities on this matter. The one-way traffic system, assuming the committee's proposals are adopted, will come into operation in Montpelier Vale, Blackheath; Chapel Street, Marylebone; part of Bow Road in Poplar; Marylebone Lane and Somerset Street, off Orchard Street.

The Minister of Transport promised in the Commons to consider the re-arrangement of the traffic at the Elephant and Castle, and at Grosvenor Gardens, beside Victoria Station.

The Minister of Transport announced that his Department are making headway in their negotiations with various local authorities for the freeing of toll bridges, and he added that this aim has his entire sympathy.

STEAM ENGINES FOR LIGHT CARS.

IT IS CLAIMED IN THIS ARTICLE THAT STEAM IS THE IDEAL MOTIVE POWER FOR A LIGHT CAR, AND THE WRITER GIVES SOME INTERESTING FACTS AND FIGURES.



In this diagrammatic lay-out of a steam car it will be seen that there is no undue complication and that the weight is evenly distributed. The engine and rear axle form a single unit and no gearbox is needed.

FOR 25 years internal-combustion engines have been practically the only type of power unit used for motorcars, and all the inventive genius of designers and experimenters has been concentrated upon petrol-engine development, to the exclusion of every other type of power unit, so that these engines have now arrived at a very high state of perfection, and even the most optimistic designers foresee little drastic alteration for many years to come.

From a purely theoretical point of view the internal-combustion engine is most unsuitable for propelling a motorcar. It cannot develop any considerable amount of power except at a high speed, it is not very flexible, it can rotate only in one direction and it must be revolving rapidly before it can develop sufficient power to start a car from a standstill on a hill.

A car frequently requires maximum power when going very slowly. To meet the inherent disability of the internal-combustion engine, therefore, for this purpose a clutch and gearbox are necessary. As the engine is not self-starting under load an electrical starter has to be included.

Alternative Power Units.

Steam engines and electric motors, on the other hand, are, theoretically, at any rate, perfect power units for a motorcar. They are self-starting under heavy load; they can develop their maximum turning effort at very low speeds; in fact, they can do so when *absolutely stationary*. Their rotation can be reversed without additional complication.

Electricity, unfortunately, for the present is out of the running, and will be until we can obtain electrical energy by wireless means as we go along. Steam, therefore, is our only alternative, and the writer proposes briefly to explain the principles of working of a steam car.

In the early days of the motoring movement steam cars were plentiful, but they were crude, badly made, too light and flimsy, and as they had no means of condensing the exhaust steam they used a gallon of water per mile, necessitating stops every 15 to 20 miles for replenishment. Except in hot weather the exhaust steam condensed on discharge and the car travelled in a cloud of steam.

The boiler was under the seat, and this became uncomfortably warm in any but cold weather. Not using superheated steam, the engines were wasteful in both fuel and water, and the water level in the boiler had to

be watched constantly, otherwise the latter was speedily ruined. In silence and sweetness of running, however, crude and imperfect as these cars were, they could give points to many present-day high-grade petrol cars.

Although steam cars were abandoned by nearly every designer in the trade, a few makers continued patiently to experiment and, from year to year, eliminating one by one the various faults, eventually produced cars which competed on nearly every point with those using internal-combustion engines.

The design of a satisfactory engine and boiler for a steam car has never presented any difficulties; practically the only serious problem that has had to be faced is in making a powerful and economical burner which can supply large and constantly varying quantities of heat without trouble, and which can be started up at once without the preliminary heating up, which takes from 5 to 20 minutes.

A Successful Design.

The Stanley, made continuously for over 25 years up to last year, had the largest sale of any steam car, some tens of thousands having been sold. In appearance it exactly resembled a modern petrol-driven car, there being no outward indication whatever that the power unit was anything unusual.

It had, however, a "fire-tube" boiler, containing about eight gallons of water, and consisting of a stainless-steel drum 23 ins. diameter and 18 ins. high, with some hundreds of $\frac{1}{4}$ -in. diameter tubes connecting the top and bottom ends. The hot gases passed up through these tubes, the water being in the small spaces between. Although of the "water-level" type, this boiler needed no attention whatever from the driver, as it was controlled automatically.

The engine was of the two-cylinder double-acting type, similar to that used on locomotives, lorries and for a host of other purposes. The appearance, construction and working of such an engine is known to nearly everyone.

The chief and most important feature, however, and the one that is common only to the three makes of steam car produced in any quantity since the war, is that the engine is not carried in the chassis frame, but is in one unit with the rear axle, a spur-wheel on the engine crankshaft gearing directly into another spur-wheel on the differential-gear housing. There are, consequently, no clutch, gearbox, universal joints, bevels or reverse pinions. The drive is extraordinarily simple

and exceedingly efficient, but, in the writer's opinion, the greatest advantage lies in the separation of the engine from the chassis frame. The engines are geared very highly compared with petrol engines—a ratio of about 1 to 1½ being usual—and, running at such a slow speed, are naturally very free from vibration, which accounts for the smooth and effortless manner in which modern steam cars travel. There is never any question of engine effort, and only those who have experienced the fascinating movement of these cars can appreciate fully their unrivalled charm.

This peculiarly effortless type of movement at any speed has long been desired by all keen designers, as witness the strenuous efforts made to damp out noise and vibration in four-cylinder petrol engines and the introduction of several six-cylinder light cars. In the larger cars 8-cylinder and even 12-cylinder engines have been introduced.

The writer is strongly of opinion that some of our leading designers would be well advised, in view of the fact that internal-combustion engines have been brought to a state approaching perfection, so far as their limitations permit, to experiment with steam.

After conversation and discussion with many experienced users of steam cars, and backed up by the expressed views of several engineers of high standing in the automobile world, an opinion almost amounting to conviction has been gained that a highly satisfactory steam-driven light car is not difficult to design or to produce successfully on a commercial basis.

Boiler Design.

The fire-tube boiler is out of the question, as, no matter what type of rapid-starting burner is used, one cannot heat eight gallons of water to boiling point in much less than 20 minutes. The flash type of steam generator, therefore, is necessary. To those not familiar with its construction it may be mentioned that this consists of several flat spirals of tubing, usually about eight in number and of about 8 in. diameter, superimposed and connected end to end to produce the effect of one continuous tube about 200 ft. in length.

The flame from the burner is outside the tubes, and the generator usually contains very little water—only a pint or two—the supply of water being pumped in as required and controlled by automatic devices to meet the varying demands of the engine. The effect is similar to dropping water on a red-hot plate.

The water is not boiled in the ordinary sense of the term, but practically exploded into steam and superheated up to about 700 degrees F. As steam acts in the same way as any gas, and expands on heating, it follows that a considerably greater quantity of superheated steam can be produced from the same amount of water than saturated or wet steam, as produced from a domestic kettle. This effects great economy in both fuel and water.

Incidentally, it may be mentioned that a modern steam car will cover from 150 to 200 miles on one fill-up of fuel and water, also that common paraffin at two-thirds the price of petrol is used. Even a large and heavy steam car, weighing about 38 cwt., will cover about 15 miles per gallon, so that it is not unreasonable to suppose that a light four-seater of about £10 to £12 Treasury rating would cover 25 miles per gallon if of efficient design.

Another point which contributes to the silence of a steam-driven car is the fact that there is no open exhaust, the gases being discharged into a condenser, which, as regards appearance and position, corresponds to the radiator of a petrol-engined car.

A partial vacuum is maintained in this condenser by a suction pump, and the steam, on discharge from the engine, is instantly condensed and returned to the tank for use over and over again.

A rapid-starting and efficient burner is the only difficulty, and the writer is in a position to state that this problem is being tackled in earnest, and that before many months have passed there is every probability of a light steam-driven car, British made throughout, being placed on the market.

Final Considerations.

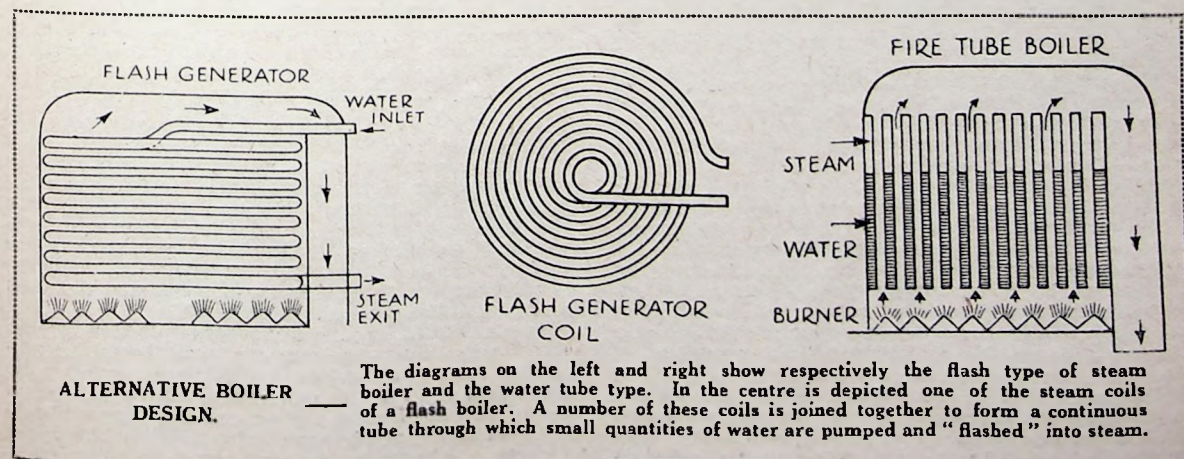
Not the least important point in the design of a steam car which will appeal to an average owner-driver is to ensure that there is a minimum of controls requiring frequent attention. The early steam cars bristled with wheel valves, gauges and levers, which tended rather to frighten novices.

On more modern steam cars a general simplifying of the layout was brought about by the use of thermostatic controls, which made the cars as easy to drive as the petrol-engined type.

Speed enthusiasts probably will wish to know how fast a steam car can travel, and the answer is: quite as fast as a petrol car of equal rating and type. In fact, a Stanley steam car once held the speed records at Ormond Beach, U.S.A., and it was some time before these were lowered by petrol-driven cars.

The possibility of using steam turbines as a motive power for cars has been suggested, but they cannot be regarded as suitable for the purpose. Actually, a turbine developing the necessary power would by no means be difficult to construct; in fact, there is a large number already in use for other purposes, but they run at an immensely high speed—somewhere in the neighbourhood of 30,000 r.p.m. Thus the gearing necessary between the turbine shaft and the road wheels would be of a very complicated nature, and, in addition, there would probably be boiler and condenser difficulties.

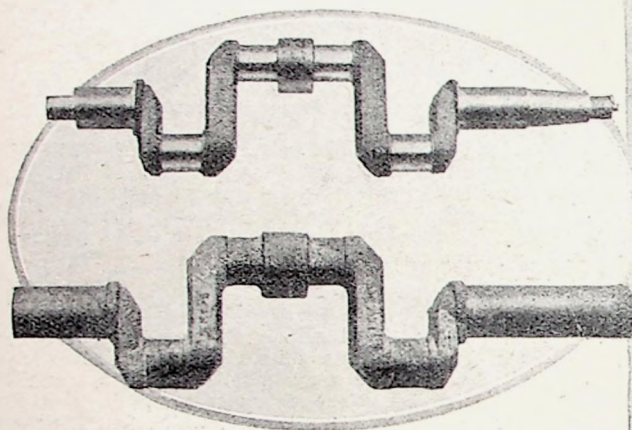
It may come as a surprise to many light car owners to learn that there is quite a number of steam cars over 17 years old still running and giving every satisfaction. For durability a steam car cannot be beaten.



Light Cars in the Making.

DROP-FORGING, STAMPING AND PRESSWORK.

HOW CRANKSHAFTS ARE MADE—SKILFUL
HAMMER WORK—COLD-PRESSING A STEEL
ARTILLERY WHEEL—MASS-PRODUCTION
PUNCHING.



IN the previous instalment of this series, which appeared in our issue of April 15th, readers were given an insight into foundry practice, and they learned how castings are made. A large number of the parts, however, which go to make a motorcar are forged or pressed from metal; these processes are, in fact, to a large extent, supplanting casting.

One of the main ideas in making parts is to reduce so far as possible the time required to finish them. Thus even the preliminary limits are kept fairly close, so that only a small amount of metal need be removed during the finishing process in the machine shop. Forging and presswork thus are rather exacting operations.

Dealing first with drop forgings, most readers, no doubt, have watched a village blacksmith forging a horse-shoe, which he does by skilfully hammering a red-hot piece of iron on an anvil. It would not be practicable, however, to adopt this process when making exact and complicated parts in large quantities. Instead, a process which in one aspect resembles casting is adopted.

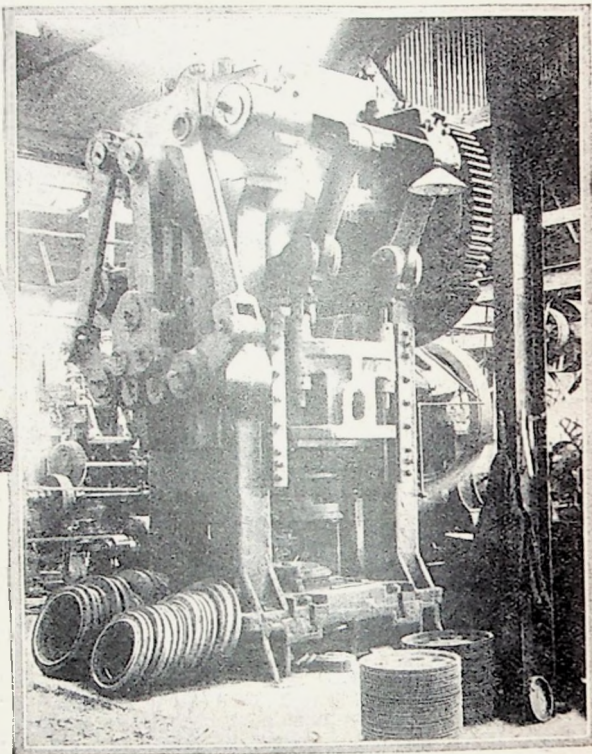
Forming the Dies.

The shape of the required article is cut in a block of metal to half its thickness, as it were. The other half is cut in another block of metal, so that when the two blocks are placed together the complete shape of the article is formed between them.

These two blocks are known as dies and one of them is secured to a kind of anvil mounted on a very solid floor, while the upper die is fixed to a heavy block of metal arranged to slide vertically in guides. This metal block, with its die, is lifted by ropes and friction clutches, a trip mechanism being arranged so that, at a given height, the block is released and falls down of its own weight on to the anvil and is lifted again automatically immediately after the impact.

Although automatic, the lifting and dropping mechanism is, of course, under the control of an operator, so that it can be put out of action when necessary. If, then, a billet of red-hot steel is laid over the lower die and the upper one allowed to fall on it, the very great pressure created by the impact will cause the metal to be forced into the interstices of the dies, so that it conforms to the required shape exactly, the surplus metal being squeezed out between the faces of the two dies. Incidentally, this surplus metal is

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The gigantic press depicted above is used for blanking-out steel artillery wheels. On the left is shown a drop-forged crankshaft in two stages of manufacture.

known as the "flash," and must be removed before the actual machine work to finish the forging can be begun.

Quite often only one blow is necessary to complete the forging, and, as will have been gathered, the term drop forging is derived from the fact that the hammer or die drops of its own weight and is not forced down by any external power.

Where complicated forgings are required, it is possible to make the dies in more than two pieces, but a description of such dies would be of a highly technical nature and outside the scope of this article.

Mechanical forging, as distinct from drop forging, is another process common in motorcar factories and is accomplished by means of power hammers fitted with special dies. Sometimes the hammers are belt-driven from the line shafting of the shop and sometimes they are of the pneumatic or steam type.

Skilled Control.

In any case very exact control is provided and skilled operators can perform very remarkable feats in manipulating their hammers. It is no uncommon thing for the operator of a 50-ton or a 100-ton hammer to lay a watch glass on the anvil and to bring down the hammer at full velocity, stopping it so skilfully that the glass is only just nipped between the hammer and the anvil and is not even cracked.

In spite of this skill, modern mass production requirements make it necessary to eliminate the human element so far as possible, so that dies are used even for small forgings. In the case of, say, an engine valve, the process adopted by one very well known manufacturer is to heat short bars of about 1½ in. diameter in a gas-fired muffle furnace and then to pass the bar

through a series of dies operated by a power hammer. Each die, being smaller in diameter than its predecessor, reduces the diameter of the bar—still keeping it circular, of course—to a dimension a little larger than that of the finished size of the valve stem.

The next process at this stage is to cut off the reduced portion of the bar, together with about an inch of the full-diameter portion. These forgings are then passed on to another mechanical hammer which has two dies, the lower one, which is fixed to the anvil, being shaped like the neck of the valve, whilst the upper is curved like the head.

The partly formed valve is dropped into the lower die, after having been previously heated, so that the rough-forged stem passes through a hole in the die. The upper die is then brought down on to it in a series of blows, which results in the metal being spread until it conforms to the shape of the upper and lower dies; thus a rough-forged valve is produced.

In presswork a fixed die is used, as in machine forging, but the moving member is known as a punch and it is shaped to fit the die. Clearance between adjacent faces must be allowed, however, to provide for the thickness of the metal being pressed. On the other hand, when articles are merely being cut and left flat the punch is made a very close fit in the die, so that it works with a definite shearing action.

Cold Pressing.

Contrary to forging practice, the metal in a press is nearly always worked cold and the punch is brought down on to the die slowly but with tremendous force. Truly immense presses are used nowadays to form parts such as steel artillery wheels and mudguards.

If necessary, the dies can be made to press and cut at the same time. In the case of a steel artillery wheel

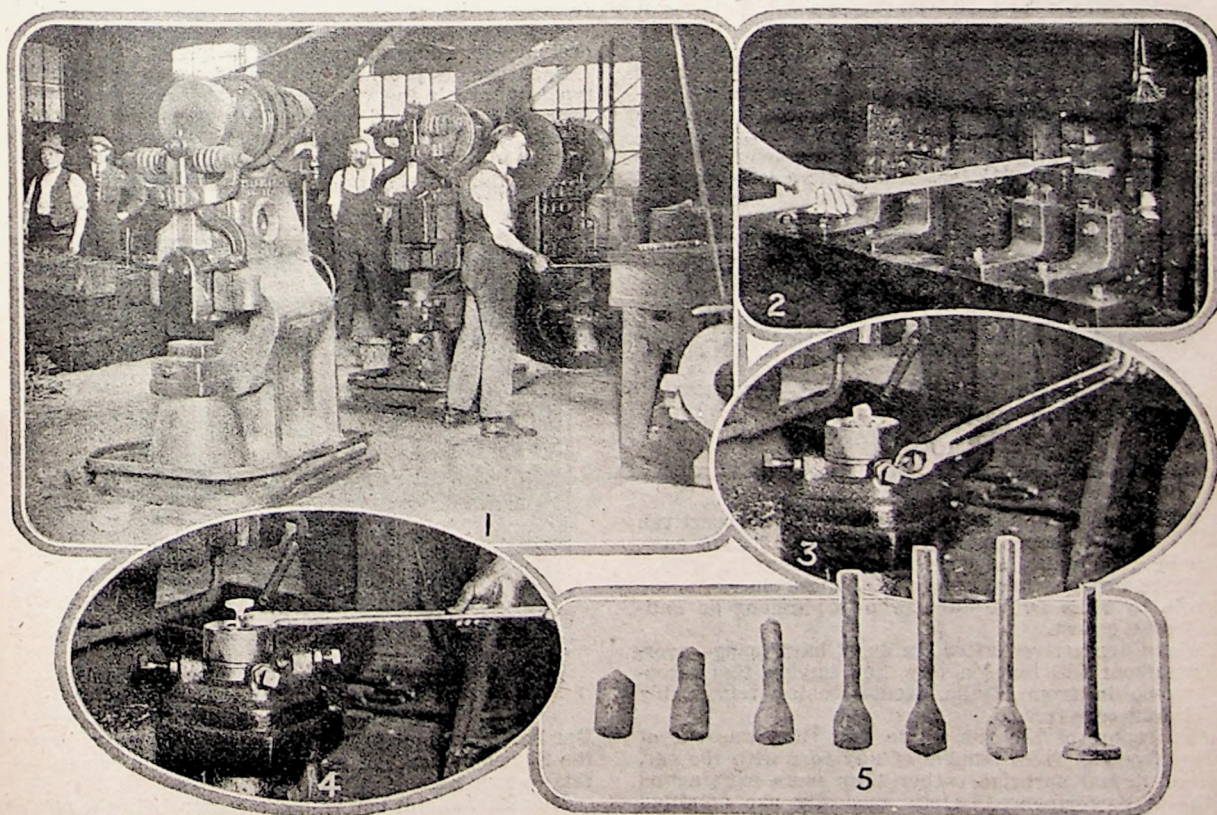
a disc of metal is placed on the lower die and the punch, in coming down on to it, shapes the disc and cuts away the parts between the spokes and at the hub centres. The wheels are made in halves, with a separate rim—which usually is rolled from a strip of steel—and the halves, when fitted together, are then welded along their butting faces to form the completed wheel.

Annealing the Metal.

As the original discs are altered considerably in shape during the pressing operation, it is necessary for the metal to be very thoroughly annealed beforehand, and if the pressing operations are extensive or complicated, it is by no means uncommon for the metal to undergo subsequent annealing processes.

Often more than one set of dies and punches will be necessary before the finished article has been formed to the required shape. In most large works a battery of presses is installed and the article passed from one press to the next as each operation on it is completed, but in small works the die and punch of one machine are changed as required. Thus, the first operation would be performed on, say, two or three hundred of the blanks, after which the tools would be changed and the second operation carried out, and so forth.

In the case of small and comparatively light parts, such as, for instance, flat steel brackets or splined washers, a small press, fitted, as a rule, with an inclined table, is used. The sheet metal is fed to the press, which runs continuously, and each part, after being shaped and cut, is ejected into a container placed to receive it. The die and punch must be shaped to prevent binding and a fitting known as a stripper-plate is used to prevent the sheet from which the stampings are being made being carried up with the punch as it is withdrawn from the die.



THE EVOLUTION
OF A VALVE.

Exhaust and inlet valves are machine-forged from steel billets. The photographs depict (1) The power hammers. (2) A valve stem being swaged to size. (3) The partly-formed valve in the head-stamping die. (4) Lifting out the valve after stamping the head. The seven stages of valve forging are shown in (5).

A DUAL-PURPOSE CLYNO SALOON.

INGENIOUS NEW BODY WHICH
SHOULD PROVE VERY POPU-
LAR WITH COMMERCIAL
TRAVELLERS.

The new body in its business form
with the shelves in position; it is
mounted on the 11 h.p. chassis.

OF recent years light cars have come to be used more and more by commercial travellers on account of their economy, reliability and general handiness. Many travellers find that a light car can be used for business purposes during the week and as a pleasure vehicle at the week-end. If this is done, however, elaborate precautions have to be taken to prevent the upholstery being damaged by samples, whilst there is also some difficulty in keeping the packages in reasonable order.

These facts have been appreciated by the Clyno Engineering Co. (1922), Ltd., Pelham Street, Wolverhampton, which has just placed on the market a dual purpose saloon, designed especially for the traveller who wishes to use his car for both business and pleasure.

The new model is mounted on the well-known 11 h.p. chassis, and is almost identical with the four-door saloon, which sells for £199 10s., except that the rear seat cushions can be removed at will and shelves fitted in their place, thus converting the rear of the car into a commodious compartment for samples.

An illustration on this page shows the car in its business form, and it will be noted that three shelves are provided. These are adjustable, and provide accommodation for a large number of parcels, each shelf measuring 42½ ins. by 31½ ins., whilst there is a space of

corresponding size beneath the lower shelf. A front guard rail is fitted to hold the packages in position. The weight which can be carried is between 2½ cwt. and 3 cwt., whilst the space provided is about 33 cubic feet. The distance between the back of the driver's seat and the front of the shelves is 18 ins., so that there is useful additional space for carrying personal luggage.

To protect the windows plywood "shutters" are provided, and these are covered with a suitable material to represent blinds, whilst the interior of the body panels is also covered with plywood.

When not required the conversion set can readily be removed without the use of tools, the time taken for the operation, we are informed, being less than five minutes; the usual seat cushions and so forth can then be replaced.

In its pleasure form the car is quite indistinguishable from an ordinary saloon. The equipment provided is very generous, being similar, in fact, to that of the ordinary four-door saloon.

Each door is provided with windows of the winding type, and with the exception of the near side front door, which is fitted with a Yale-type lock, all have interior bolts. This, of course, is a very necessary feature to avoid the risk of samples being stolen. The price of this model is £210, including the conversion set.

THE SINGER ROUND- THE-COAST RUN.

BOTH CARS RUNNING WELL DESPITE
UNFAVOURABLE WEATHER—250 MILES
A DAY AVERAGE.

WE gave details last week of a round-the-coast run which is being made by two Singer Junior cars, and on Wednesday of last week, just before 2 o'clock in the afternoon, there appeared at these offices the car driven by Miss D. V. Carr, who is pursuing an anti-clockwise course.

Miss Carr arrived after six days' hard going—averaging about 250 miles a day, and having that morning come in from Hythe, Kent—looking remarkably fresh and care-free.

Her report of the run up to that time was one of entire freedom from trouble of any sort with the car, and of actual surprise rather than mere satisfaction with its performance. Quite modestly she admitted that she had driven cars for only three or four years, and that she felt a certain amount of diffidence in associating herself with a job usually considered to be suitable only for an expert. Porlock Hill, she admitted, had given rise to considerable anxiety—she had, in fact, feared the worst in the earlier stages of the ascent.

B18

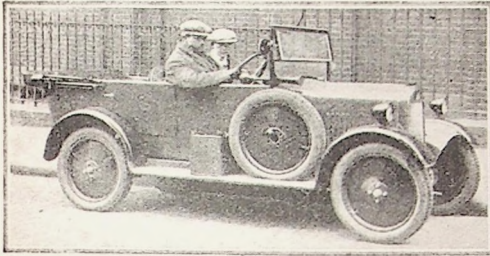


Miss D. V. Carr in her Singer Junior, photographed
outside our offices on her arrival in London last week.

But her fears had proved to be entirely groundless—the Singer Junior had more than proved its mettle on this famous ascent.

Miss Carr said it had rained incessantly in the course of the journey through Cornwall and Devon; so bad, in fact, had been the weather that her camera had remained in the back of the car unopened.

We had to admit a certain amount of surprise on seeing the car. Far from being splashed all over with mud and showing signs of the weather, it looked pretty



Mr. J. Bicknell, who reached London on Monday last after a strenuous run in Scotland and down the East Coast.

much as does any London car coming in from an afternoon run of 50 or 100 miles in the country. Miss Carr stated that no matter how late they arrived at an hotel at night, they invariably made it their business to wash the car and to go carefully over the chassis, greasing it where needed.

On Monday of this week, at 10 o'clock in the morning, there arrived Mr. J. Bicknell, driving the companion car, but having made his way to London via the northern route. Actually, he had arrived in South-end late on the Sunday night and come along to London early in the morning. Mr. Bicknell and his passenger are two young men belonging to the testing department of the Singer works at Coventry. Mr. Bicknell's car appeared to be in a condition quite as spick and span

as that of Miss Carr's, and just to satisfy our curiosity we asked him to take us for a short run in the locality. To all appearances the whole car was running perfectly and the engine was full of life.

Mr. Bicknell's chief item of news was that he had met Miss Carr some 20 miles north of Scarborough on the previous Friday. Miss Carr had reported that all was still well.

Mr. Bicknell also had his grumble about the weather. For days on end he encountered rain, fog and snow in Scotland, but his average daily mileage had, nevertheless, been nearer 260 than 250 miles.

On Friday, April 29th, Miss Carr reached Newcastle-on-Tyne and at 10 o'clock on May 1st arrived at Inverness. The latest news of her car was that it had got as far as Tongue, one of the most northerly points of Scotland, on Tuesday last, and was still running well. In the meantime, Mr. Bicknell had left London on Monday morning, and, passing through Margate at 3 p.m., arrived at Brighton in the evening. Bournemouth was reached at 2.10 p.m. on the following day.

By the time this issue is in the hands of the public no doubt both of the cars concerned will be back again in Liverpool, or very nearly so. Continuing to maintain the same steady going they both have maintained so far, there is little doubt that they will get back well on time.

The test is not, of course, to be taken in any sense as an official trial. No exact times are being taken or officially checked, but, even so, the run will prove to be of very great value in demonstrating to the ordinary owner and the ordinary prospective owner something of the capabilities of this popular small car.

NEW FABRIC SALOON ROVER.

AN ATTRACTIVE NEW
FOUR-DOOR BODY WHICH,
MOUNTED ON THE 9-20 H.P.
CHASSIS, WILL SELL FOR
£250.

A three-quarter side view of the
new model showing the pleasing lines.

THE Rover Co. is now producing a very attractive four-seater fabric saloon on the 9-20 h.p. chassis, which will sell for £250. So far as external appearance is concerned, the body conforms to all the latest ideas in enclosed coachwork, i.e., the waist line is high and the roof comparatively low, yet by the arrangement of the seats there is plenty of headroom even for a tall passenger. There is sufficient width in the rear seat to accommodate three normal passengers quite comfortably, the wheel arches having been encroached upon by the body sides in order to provide the necessary width for the shoulders.

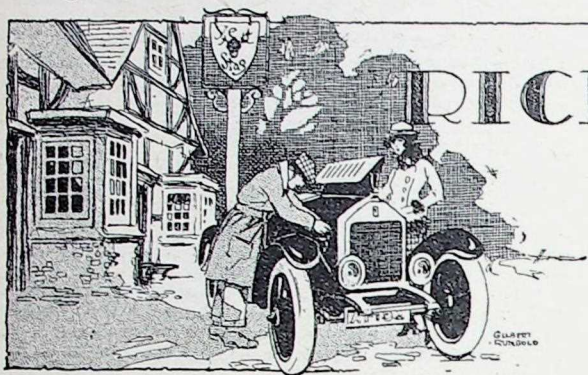
A 6-ft. driver can be accommodated at the wheel without feeling cramped in the slightest; the width of the front seat is almost equal to that of the rear, while comfort for all concerned is ensured by long and deep seat cushions and squabs. The front seat is adjustable over a range of several inches.

Perhaps one of the most interesting features in the layout of the car is the fact that the four doors are as wide as might be expected on a car rated at twice the horse-power of the Rover, yet the body does not look disproportionate in any way. The driver's door pro-

vides really easy egress and ingress, and would, in the ordinary way, be used in preference to the near-side door, owing to the central gear and brake levers.

The seats are upholstered in grained leather (which matches exactly the fabric covering of the exterior of the body) and the roof is lined in cloth, also toning in colour with the general scheme. Each door has a sliding panel glass window, while if further ventilation is required a single-pane front screen can be swung open by a conveniently placed knob in the centre of the car and slightly above the fascia board.

There are many refinements in the interior which are of advantage to both driver and passengers. For instance, there are two cubby holes in the fascia board in addition to a tray above it; both front doors have pockets, and a blind to the rear light is operated by a cord from the driver's seat, thus enabling dazzle from the headlights of traffic approaching from the rear to be avoided. There are also lady's and gentleman's companion sets. The fascia board houses the usual range of accessories such as speedometer, clock, oil gauge, switches and air strangler.



RICH MIXTURE

Light Car Comment —
and Advice.

By *Focus*

More About Free Wheels.

THE letter which was published last week concerning my suggestion with regard to free wheels was interesting and constructive, but it threw no new light on the subject. The writer of the letter does not own a car with front-wheel brakes. I gather he has no experience of vacuum or other servo mechanisms, and I feel sure that he has never driven a car with transmission which was free on the overrun.

The boggy of being entirely dependent upon the brakes when the engine is free has no right to influence car designers to-day. Railway trains, tramcars, certain public vehicles and nearly all steam lorries have only their brakes for retarding them, whilst every time a man takes his car on the road he places his life at the disposal of the man who designed—and the men who made—his brake gear.

A Source of Waste.

ANOTHER point in connection with the same letter relates to petrol consumption. Admittedly, by putting the gear in neutral a small amount of petrol can be saved when descending hills, but this is a negligible saving compared with the economy which is effected when a car can overrun free, and when, in consequence, the high suction of an engine turning at 2,000 r.p.m. and upwards is not imposed upon the pilot jet. This occurs every time the accelerator of a normal car is allowed to come up when reducing speed for a bend, a corner or because there is some obstruction ahead, and the petrol so wasted is a substantial proportion of the total quantity consumed.

I sincerely trust that we shall have some letters from people who are able to view the possibility of introducing free-wheel mechanism into the transmission in the light of the most modern designs and of probable future developments, so that the idea will not be killed or hampered by the fetishes of a bygone age.

Non-stop Electric Horns.

PERHAPS it would be well to advise readers how to stop an electric horn when it makes up its mind to go on blowing and the driver does not wish it to do so. One can go to the root of the matter by removing a battery terminal, a terminal can be taken off the electric horn itself or one of the switch wires can be disconnected. If one feels frightfully embarrassed a vicious tug on one of the switch wires will drag it away from its connection and stop the horn at once.

I give this rather elementary advice after two
B20

recent experiences of non-stop horns. One I was a witness to myself and the other was recounted to me by, I am afraid, a not-too-truthful person. In the first case referred to, two women were driving over Wimbledon Common in a very dilapidated car with the electric horn sounding continuously. They were dreadfully embarrassed by the attention which it was attracting towards them, and extremely thankful when I tugged one of the wires off the switch for them.

Amusing—if True.

THE other case was told to me last week-end. A man bought a new car, drove it home and put it in a garage he had built beside his house. Later he went to bed, and woke up half an hour later to the tune of the electric horn of his new car, which was sounding continuously. He got into his dressing gown and tried to stop it, without success, so stuffed a rag into the trumpet part and went back to bed.

Presently a policeman knocked on the door and told him that the neighbours were complaining about the noise and that he must stop it. He and the policeman investigated the matter, but could not stop the din. "Very well," said the policeman, "you must drive it to a garage and get them to stop it there." So the streets of a very respectable little provincial town witnessed an irate new motorist driving around in his pyjamas and dressing gown at 2 a.m. vainly seeking a garage—and all the time the horn kept up its mournful dirge.

By Austin 7 to Land's End.

AN old friend who has spent most of his time at the wheel of large cars drove an Austin Seven in the London-Land's End run and promised to let me have his experiences in the form of a short article. Here it is:—

Although I had ample faith in the reliability of this perfect miniature car I had grave doubts as to how it would perform on the great test hills of the trial. Friends who had heard of my purchase came to me and said, "You are never going to take your new Austin through the Land's End? You won't get sufficient power from it until it has done at least 2,000 miles. They take such a lot of running-in."

This was not cheering, for I had been able to cover only some 700 miles before I reached the start, but, being an optimist by nature and knowing that the little car was in as perfect condition as it could be, I was not daunted by the gloomy prophecies of others.

At Slough I found my Austin was one of many. No fewer than 25 were taking part. Every type was represented, from the ordinary standard chummy model, like ours, to the pretty little Gordon England saloons and Cup models.

Eventually our turn came to start and, as we hummed along the smooth surface of the Bath Road, I reflected on

the extraordinary amount of light provided by the combined head and side lamps on the Austin Seven. One could see five telegraph poles ahead quite comfortably with the standard bulbs in use. After an uneventful night we reached Tannton, where a little Castrol XL was poured into the crankcase to bring up the level, and we noticed by the amount of fuel that was required that the petrol consumption was actually something in the neighbourhood of 45 m.p.g.

In order to get an adequate head of petrol on the steep hills we took a spare can on board, with the idea of filling the tank to the brim before tackling Porlock or Beggars' Roost. At Porlock we were kept waiting while the competitors immediately in front of us were restarted at their scheduled times. Then came the restarting test. I could not help feeling a little peeved, because the starter insisted on our front wheels being exactly on one of the white lines before giving me the word to go. The slope was too steep for me to see the white line in front of the car, and I had to do what were virtually four restarts before I was given the official word to go. However, when the engine was revved up and the clutch engaged the little car shouldered its load in a really manly style and, with revs. picking up, rounded the corner and made for the summit at speed.

Near the top of the steepest section we were delighted to find that we had caught and were able to overtake a very much larger car which had started quite an appreciable time before us; then came a long drag up on to the top of the moors, whence we swept down Countisbury Hill into the village of Lynmouth before being despatched up Lynmouth Hill, which was as rough and stony as ever.

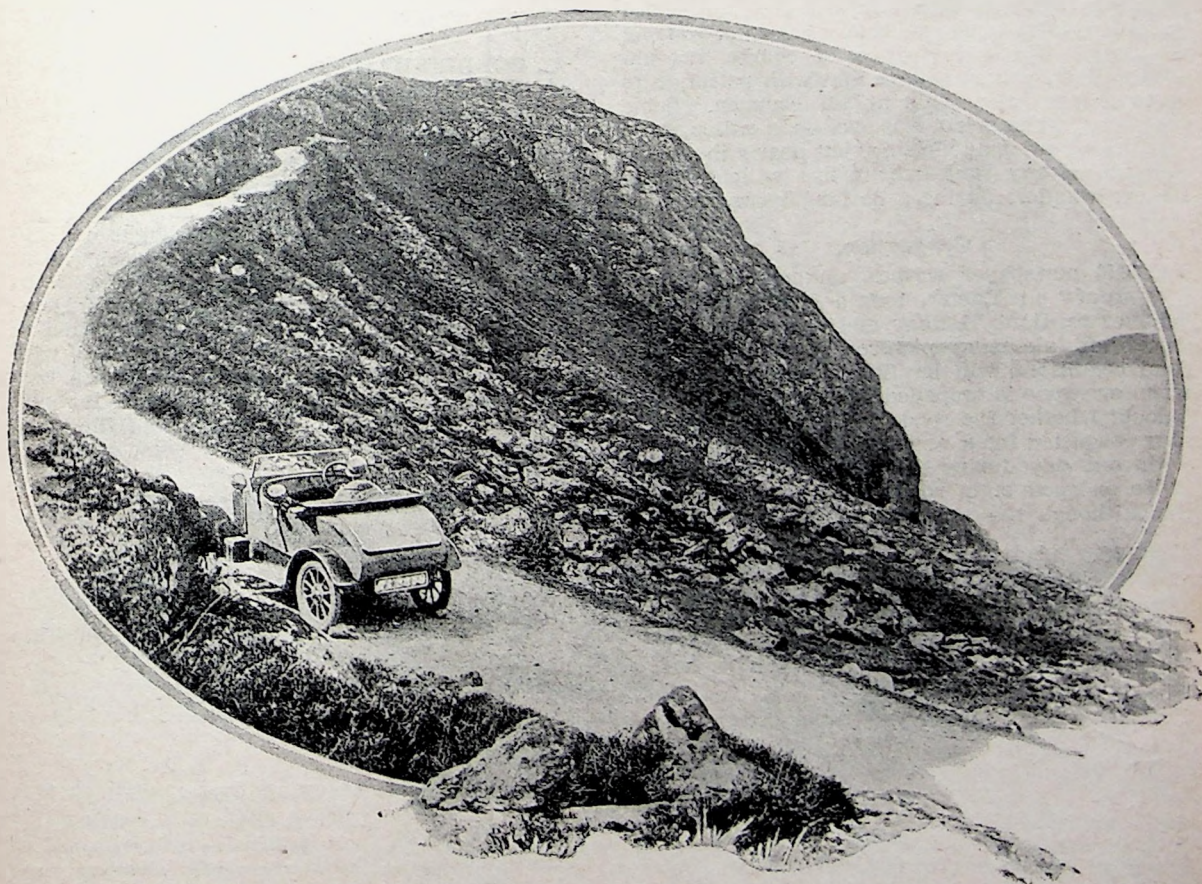
Personally, I do not like Lynmouth Hill. I think it must have a kind of hoodoo upon me, for in previous Land's End trials, when driving much larger cars, I have felt my engine slow down ominously about half-way up, although on Beggars' Roost, which is infinitely steeper, the cars have climbed in the most satisfying manner.

The Austin started well at the hill on this occasion, took us round the acute hair-pin bend in fine style and purred away at speed up the 1-in-4½ gradient. Somewhat to my chagrin, however, when we were more than three-quarters of the way up, the engine revs. began to die down and, when we had only six or seven feet to go to get on to an easier gradient, the car stopped. I could only conclude that, as my friends had warned me, the engine had not been run sufficiently to become really free, so that something had tightened a little under the stress of full-throttle work.

A vast crowd congregated above the slopes of the hill to the left showed us where Beggars' Roost climbed towards the clouds. I had already made up my mind that we should probably fail, and the fact that this year competitors were started at the very foot of the impossible-looking gradient of the hill without any run being allowed prevented my engine from ever accelerating sufficiently to develop its full power, and on the steepest part we came to a standstill, were pushed a little way and then stopped again. After some further assistance we got going again and soon reached the summit.

The thing which struck us most about the ensuing section over the moors to Simonsbath was the surprising comfort of the Austin on really rough roads. The brakes were splendid and road-holding so good that we were able to keep to time notwithstanding the many steep hills and tricky corners. The same may be said of the difficult section across to Launceston and on to Bodmin. Actually we found the whole trial less tiring in the Austin Seven than I have ever found it on previous occasions.

The prospect of Bluehills Mine really did not bother me. The Austin was so small that I had no fears about being able to round the difficult hair-pin bend. When we got there we found the surface loose and rocky, but the Austin overcame all obstacles and pulled strongly to the top. Thereafter came a most exciting run to keep up to time over rough and stony roads to Hayle, after which we had a



IN THE WILDS
OF ROSS-SHIRE.

There is wonderful coast and mountain scenery to reward the tourist who explores the Ross-shire by-ways. This photograph was taken just north of Cairloch, where Gruinard Bay washes the foot of the cliffs.

splendid run along the main road to Penzance. The last bit out of Newlyn brought us down to first gear for quite a long stretch, but we checked in at Land's End on time, as, indeed, we had done at every point en route. Needless to say, we did not touch the tool kit from start to finish, nor were any adjustments needed before, during or after the long homeward run.

Simplify Brake Adjusting.

MY recent note on the adjustment of four-wheel brakes seems to have struck a responsive chord, for several of my readers have written in hearty agreement. One of them says that the operation of synchronizing the brakes is such a tedious and complicated task that he is forced to hand the job over to a garage, and even then the result is a gamble.

There are five separate adjustments to be made when wear is taken up, and should the result not be satisfactory the whole work has to be done over again. A system like this is not one for a busy man who has his car in constant use, and there certainly seems room for improvement.

Petrol Thieves.

A CORRESPONDENT who keeps a strict check on petrol consumption considers that the time is approaching when it will pay motorists to fit a lock on the petrol filler cap. He declares that when on tour he has several times found his consumption excessive, and his only conclusion is that when the car has been left someone has seized the opportunity to extract half a gallon or so from the tank. The practice is, of course, not unknown, but I cannot believe that with petrol at its present low price it is at all common. Some years ago, when petrol was over 4s. a gallon, some ingenious gentleman siphoned out nearly the whole contents of my tank—about five gallons—while the car was left during a bathing excursion.

Congestion.

SOME newspaper scribes, anxious for a new "stunt" at Easter, took a census of motor vehicles on Bank Holiday and drew fanciful and somewhat alarming pictures of what ordinary road conditions will be like a few years hence when everyone is propelled by petrol. Personally, I doubt whether the roads will become uncomfortably congested for a very long time to come.

On one day during the holidays I covered 200 miles on good main roads among the Cotswolds, and although the weather was ideal I travelled

mile after mile without meeting another vehicle. A friend of mine had a similar experience on Easter Monday—a part of the Midlands which he visited being seemingly deserted.

Of course, if conditions around London and the large cities are taken as evidence it is easy to draw erroneous conclusions, but motor vehicles will require to be multiplied enormously before such conditions become general. There is still plenty of room and to spare in the English countryside, and those who desire escape from the crowd need not go far to find it.

An Axle "Bump."

CONCERNING my recent paragraph mentioning the drumming noise sometimes set up by disc wheels, a correspondent writes as follows:—

For a long time I was troubled with a "bump" in the back axle—as I thought—which I can only trace now to the disc wheels being loose on the bolts. No amount of tightening up of the nuts over the cover plates will cure it. Can you tell me—and possibly others—how to do it? It is more pronounced when sharply accelerating or braking, evidently caused by the discs "bumping" on the bolts.

The trouble I should say is due to the steel studs being a trifle long, so that they "bottom" against the blank ends of the acorn nuts which secure the wheel. The remedy, of course, would be to shorten the studs with a hacksaw or, maybe, a file.

A Stupid Game.

A BOBBED-HAIRED girl at the wheel of a large and expensive saloon practised an extraordinary manoeuvre when overtaking me in a narrow Hertfordshire lane. Whether she thought I had been obstructing her I do not know, but the fact remains that as she passed she cut right across my bows, decelerated, and only my Dewandre servo saved me from being brought up with a bump. There were two other girls of about 16 or 17 in the car, and these gazed through the rear windows in obvious amusement. What, however, riveted my attention was the condition of their luggage grid, which was all to pieces, with the rear lamp and red triangle hanging an inch or two from the road. From the evidence it would seem that this insolent Miss had tried the game on someone else and, unknowingly, come off worst!

START OF THE SINGER TOUR.

The two Singer Juniors which are touring Britain's coast roads, and to which we refer elsewhere in this issue, photographed at Liverpool just before the run began.

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

COVENTRY: 6, Warwick Row.
Phone: Coventry 4775.

NORTHERN OFFICES:
MANCHESTER: 196, Deansgate.
Phone: Central 2467.

The Light Car and Cyclecar

Conducted by
EDMUND DANGERFIELD.

TEMPLE PRESS LIMITED,
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London, E.C.1.

Inland Telegrams - "Pressin.33,
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Cables - "Pressin.33, London."
Telephone - Clerkenwell 6009
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"THE LIGHT CAR AND CYCLECAR" WAS
FOUNDED IN 1912 TO CATER FOR THE
NEEDS OF USERS AND POTENTIAL
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CYCLECARS, AND IT HAS CONSIST-
ENTLY ENCOURAGED THE
DEVELOPMENT OF THE ECONOMICAL
MOTORING MOVEMENT FOR OVER
FOURTEEN YEARS.

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

Is Silence Golden?

MUCH has been written recently in the columns of the daily Press upon the question of whether the driver of a car should talk whilst at the wheel, the objection advanced against the practice being that it is impossible to converse with the passengers and to control the car safely at one and the same time. Whilst being staunch advocates of safety-first principles, we think that any driver who cannot be trusted to concentrate on his job whilst talking is hardly fitted to drive a motorcar at all, because far more distracting occurrences than ordinary conversation happen almost every minute on the road. There are, however, several types of passenger whose conversation is of so annoying a character that it tends to get on the driver's nerves, with the result that his thoughts are to a certain extent distracted from the controls.

That it is possible to drive and at least to listen to—if not to take part in—conversations is evidenced rather strikingly in chars-à-bancs, the design of which quite often allows of passengers being seated on each side of the driver. As a rule, they talk almost incessantly, and if so large a vehicle can be controlled in safety under these conditions, surely the driver of a light car carrying only one or two passengers may be relied upon to maintain complete control. It is seldom that conversation on the road becomes of so engrossing a character that it requires more than ordinary attention.

Why Not Steam?

IN an article which appears in this issue the writer suggests that steam is the ideal motive power for a light car, advancing as a reason for this suggestion the contention that petrol-engine design can hardly be improved beyond present-day standards, and that, in any case, this form of prime mover is inherently unsuited for use in a motorcar.

Admittedly, it is quite easy to find fault with a petrol engine. That it is not self-starting, that it relies upon high rates of revolution to develop its power, that it is not reversible and not flexible may certainly be regarded as objections to its use. On the other hand, the petrol engine has reached a high standard of reliability and efficiency and its working is understood by almost everybody. So

far as steam is concerned, it might almost be said to have been tried and found wanting as a motive power for cars. We have to remember, however, that had designers concentrated upon steam cars to the same extent as upon the petrol-driven type, the position of the steam car to-day would have been very different. Boilers and burners were the stumbling-blocks, and it was found almost impossible to produce really fool-proof and reliable units.

Since then, however, reliable boilers fired by safe and efficient burners have been designed, and steam raising from cold, a process which in the old days took from 20 minutes to half an hour, can now be accomplished in less than 5 minutes, whilst thermostatic control makes the generation of steam an entirely automatic process. The design of the engine has never presented much difficulty, so that to-day there seems no reason why a perfectly satisfactory steam car could not be produced—but would the public buy it?

Support the Parent Body.

A BONE of contention with motor clubs for many years has been whether affiliation to the Royal Automobile Club is worth while. A suggestion has now been put forward to the effect that even the Junior Car Club might consider ceasing to be affiliated, and there is little doubt that if this step were taken other clubs would consider the desirability of following suit.

The benefits of associate-membership of the parent body—which, of course, include Road Service—are well known and need not be discussed here; but the indications are that it is not commonly appreciated that if club members did not support the R.A.C., the R.A.C. could not continue to shoulder the responsibility of sporting events. With no revenue from motor clubs, how would the R.A.C. fulfil such functions as representing Great Britain on the committee of the International Organization, and how, if they did not do so, could—to quote a recent instance—such events as Capt. Malcolm Campbell's world's hour record be officially supervised? Club members for the most part are sporting motorists, and they should realize that affiliation or non-affiliation is a much more important question than road service or no road service. Apart from all other considerations, unity is strength.

Topics of the Day

The Sima-Violet has a nice appearance, and is very popular in France.

in the model I examined was staggered, was very comfortable. There was so much legroom for the passenger, in fact, that some sort of footrest seemed to be needed. As the engine is rated at 5 h.p., the cyclecar comes within the £6 tax, and it is claimed to reach a maximum speed of 50 m.p.h., whilst the petrol consumption is said to be 50 m.p.g., which is certainly reasonable.

The equipment is very complete, and includes a Vee windscreen, an excellent one-man hood, lamps fitted with twin-filament bulbs, a tail lamp and accumulator, and the usual tools. I understand that the price of the Sima-Violet has been fixed at £88.

Mr. Lowe told me that he had only a few of the French-type bodies available, and that in future he would be fitting a fabric side-by-side two-seater body of his own design, which would be more in keeping with orthodox English practice.

Readers often write to ask whether it is a sound plan to buy an old second-hand cyclecar and recondition it, or whether a cheaper car is not likely to result by buying one in reasonable condition and not having to spend very much money upon it.

The whole question centres, of course, upon the ability of the purchaser; if he is able to undertake a complete overhaul himself and do such jobs as refitting bearings and so forth without having to call in outside assistance there is no doubt that an old G.N. for £15 or £20 could be restored to first-rate order at a total expenditure of not more than £20 or £30, making a maximum cost for the car of £50, which would include some new tyres and generally smartening up the exterior.

RECENTLY I had an opportunity of inspecting what I believe is the only four-wheeled cyclecar now obtainable as a production job in England. This is the Sima-Violet cyclecar, which has proved so successful on the Continent. It is now being marketed in this country, with a modified body to suit English taste, by Mr. Neville A. Lowe, of 7, Prittlewell Square, Southend-on-Sea, Essex.

The model I saw had a standard French body, however, and I must confess that the outline was decidedly attractive. As the Sima-Violet has not previously been seen in England in any numbers, a short description of it will prove interesting.

It is typically French in design and consists mainly of a front-axle assembly on which is carried the engine, a long enclosed propeller shaft and a worm-driven rear axle incorporating the gearbox. The engine is two-cylinder, horizontally opposed, 500 c.c. air-cooled two-stroke, and both cylinders fire simultaneously. Roller-bearing big-ends are fitted and the crankshaft runs in ball bearings. Aluminium pistons carrying three rings and a scraper ring are used, and the cylinder heads are detachable.

A car-size S.E.V. magneto is mounted on top of the crankcase and a Sima single-lever automatic two-jet carburetter is fitted on the near side. Lubrication is by the petrol system and the fuel tank holds four gallons.

The body mounting is novel, for it consists of a sub-frame in the shape

of a "V," the apex of which is pivoted on the propeller-shaft casing just behind the engine; the ends of the "V" have quarter-elliptic springs clamped to them and shackled to the back axle. The brakes on the solid back axle have 7-in. drums and aluminium shoes lined with Ferodo, the handbrake operating on one drum and the foot on the other. The gearbox, as I have already mentioned, is incorporated in the back axle. Two forward speeds and a reverse are provided, the forward ratios being 6 and 16 to 1. A 15-plate clutch running in oil is built in with the engine.

The steering layout is of a novel character. At the end of the column, which is roughly central above the engine, is a drop arm on which are two ball joints, mounted side by side, and from each joint a tubular connecting rod runs to a lever on the near and off-side steering swivels respectively. There is no reduction gear in the mechanism, but the cyclecar steers quite easily.

The bodywork is carried out in three-ply wood covered with sheet steel, and a small bonnet over the engine can be lifted up so as to give complete accessibility to the power unit. Five wire wheels fitted with 26-in. by 3.5-in. Dunlop balloon tyres are included in the specification, and although the tyres are inflated only to 15 lb. per sq. in. pressure, they are claimed to last for 25,000 miles in ordinary use.

The suspension throughout is really good, and the seating, which

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THE manufacturers of the Trojan Cars and Vans have pleasure in announcing that on and after April 23rd, 1927, purchasers of new Trojan Vehicles in Great Britain and Ireland will receive a signed undertaking that, beyond the usual running costs for petrol, oil, tyres, their Maintenance Expenses shall be Nothing for the first 5,000 miles. This remarkable Guarantee is put forward with the sole object of proving the claims we have always widely advertised that the Trojan is the Simplest Car in the world and Costs the least to Maintain.

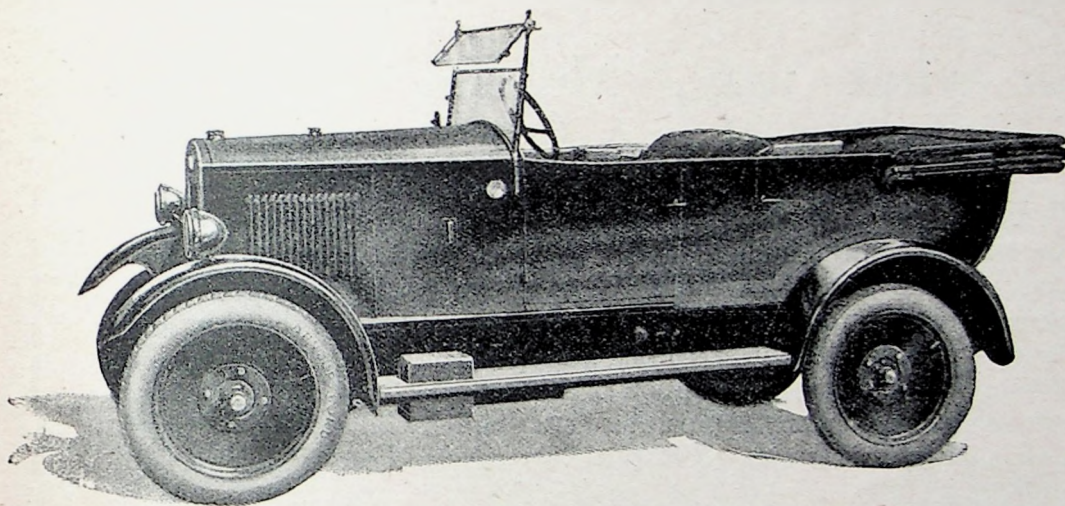
Further particulars of this remarkable warranty of Trojan economy from all Trojan Agents in Great Britain and Ireland—

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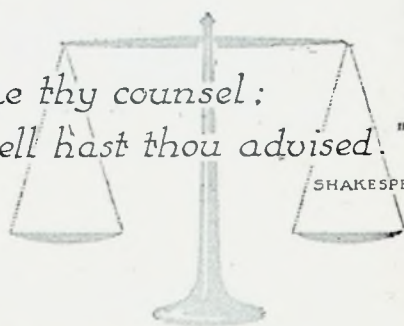
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the cause of economical motoring.

*"I like thy counsel:
well hast thou advised."*

SHAKESPEARE.



"In what way, Mr. Edge, is the springing of the A-C so superior?"

S. F. EDGE :—"Most car manufacturers, my lord, still pin their faith to the type of spring which has its thickest and heaviest part bearing directly on the axle. In the A-C cantilever spring the position is reversed, only the thin, light edge of the spring resting on the axle, thus reducing unsprung weight and using the spring in a way that admits of maximum flexibility and absorption of road-shocks. The A-C has less unsprung weight than any comparable car. The A-C costs less to run per mile than any other car of equal road-performance and carrying-capacity."

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(Opposite Marlborough House.)



An Interesting Anti-dazzle Bulb.

AN ingenious anti-dazzle headlamp bulb is being marketed by Philips Lamps, Ltd., Philips House, 145, Charing Cross Road, London, W.C.2. It is of the double filament type and the filaments, arranged one behind the other, are of equal lighting power. For ordinary driving the rear filament is used and a perfectly normal beam is produced. The front filament, however, being out of focus, would produce a diffused beam, but this is prevented by means of a metal cup which surrounds it and cuts off the rays on to the lower part of the reflector. In consequence light reaches only the top half of the reflector and is, therefore, deflected downwards on to the road. Slight alterations are necessary to the wiring system of most cars when these bulbs are employed. The price for either the 6 or 12-volt type has been fixed at 5s. 9d. each.

Handy for Picnics.

AN accompanying illustration shows a very handy little Primus stove which is specially designed for motorists' use. As will be seen on reference to the sketch, it is supplied in a special metal box which acts as a draught screen and kettle stand. It is

A very neat picnic stove—the Primus No. 70L, which sells for 8s. A useful feature is that it is designed to burn petrol.

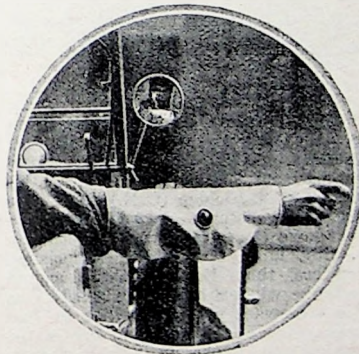
quite small in size, the box when closed being just over 5 ins. high and slightly more than 3½ ins. square.

Efficiency is not, however, sacrificed for size, for it is claimed that the stove will burn for an hour with one filling of fuel, whilst it will boil a pint of water in just under five minutes. A useful feature from a motorist's point of view is that it is designed to burn petrol, a

supply of which is, of course, always handy. No pumping is required and it is not even necessary to use methylated spirit for starting the flame. The sole agents are Condrup, Ltd., 78, Fore Street, London, E.C.2, and the price of this model, No. 70L, is 8s. complete.

Making Hand Signals Clear.

THERE is always a danger of hand signals given by drivers at night-time not being clearly visible to other road users. This fact has been appreciated by St. Helens Cable and Rubber Co., Ltd., Slough, Bucks, who have just placed on the market a white rubber sleevelet fitted with a red reflector. It is priced at 5s. and is waterproof, whilst, of course, it can easily be washed.



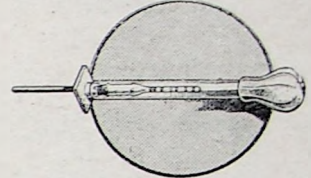
The St. Helens signalling sleevelet; it is made of white rubber and incorporates a red reflector.

Trolley Drip Tray.

ALTHOUGH it will appeal primarily to garage proprietors, the Dolphin trolley drip tray, which is being manufactured by the Garage Equipment Co., Dolphin Works, Friars Lane, Braintree, Essex, should interest small car owners who take pride in keeping their garage clean and neat. The tray measures 3 ft. by 2 ft. and is 2 ins. deep, whilst its capacity when half full is 3 gallons, so that it should be particularly useful for draining the sump. The galvanised iron tray is removable and is carried in a stout steel frame supported on wheels. Three wheels are used, the front being not unlike an ordinary chair castor, but its axle is extended so that a long steel handle can be hooked over it to manipulate the tray into position. The steel frame is intentionally very stout, so that the trolley can be used for transporting loads up to 2 cwt. The price is £2 12s.

An Inexpensive Hydrometer.

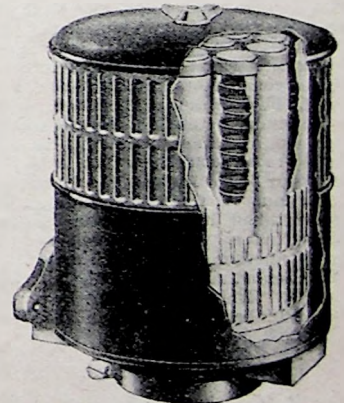
A WIDE range of hydrometers is being marketed by A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, Croydon. One of these, which is known as ALA type B, is especially suitable for motorists' use and retails for the low figure of 3s. It has a hard rubber plug nozzle of small diameter and a special moulded prong float, the graduations on which are claimed to be dead accurate. The overall length is 10½ ins., whilst the bore of the glass tube is ⅜ in. Other types are available at prices ranging from 2s. 6d. to 6s. 6d.



The ALA type B hydrometer, which retails for the low figure of 3s.

An Ingenious Filter.

THE Zenith Carburettor Co., Ltd., 40-42, Newman Street, London, W.1, are shortly placing on the market a new type of air cleaner which, in a size suitable for most light cars, will sell at 50s. The air first enters the cleaner via a set of outside vanes, which give it a rotary motion, but the direction of rotation is reversed by an inside set of vanes, and during this reversal the heavier particles of dust are deposited. Before reaching the carburettor the air has then to pass through a series of felt-covered tubes, which complete the cleaning. The tubes, incidentally, are mounted on spiral springs, so that they are continually vibrating when the car



A cut-away view of the new Zenith air cleaner showing the felt-covered tubes.

is in motion, this movement serving to shake out the dust collected by the felt, so that there is little chance of the latter becoming choked up after a long period of use.

The filter is designed to be fitted to some convenient part of the dashboard or chassis frame, being connected to the carburettor by a length of flexible tubing. The makers claim that fitting this filter will not reduce the power output or maximum speed of the car, whilst petrol consumption is unaffected.

J.C.C. SPRING RACE MEETING.

A PLEASANT AFTER-
NOON'S SPORT WHICH
INCLUDED A GRAN
PRIX RACE OVER
SPECIAL COURSE—TWO
EVENTS WON BY A
WOMAN — SUPER-
CHARGED CARS OUT OF
THE RUNNING.

(Above) The 750 c.c. class starting in the Junior Grand Prix. All three cars are Austins and G. Hendy is leading. (Left) G. Newman (Salmson) leading I. Macdonald round the sandbanks. (Inset) H. W. Purdy (Bugatti), the winner.

the leading position, but was followed very closely by Gordon Hendy (Austin), who was the limit man. These two were followed by G. E. T. Eyston (Aston-Martin), Mrs. Dykes (Alvis) and B. H. Austin (Bugatti). Soon, however, Mrs. Dykes passed Eyston, and then passed the leaders, and, still forging ahead, won by about 200 yards with G. E. T. Eyston second and A. P. Glenny third, Gordon Hendy making a good fourth. Mrs. Dykes's speed was 81.37 m.p.h.

The Grand Prix.

The Junior Grand Prix, the first of its kind for cars, was the "big race" of the day and attracted 22 entries, of which there were four non-starters. It was an enjoyable event, although difficult to follow, owing to the shortness of the laps.

The course employed was the same as that used for the motorcycle Grand Prix last autumn. Competitors were started on the main track almost under the members' bridge, and proceeded in the reverse direction of the track to the fork, where they took the sharp right-hand bend into the finishing straight. Just before the new footbridge they had to negotiate a tricky artificial bend, formed with a line of flags and a sandbank; a further bank was placed on the left to ensure that a car, unable to get round the bend, should not run into the paddock grandstand, a provision which later proved its usefulness! A second "bunker" was placed where the main track was rejoined. This difficult course was 1.17 miles in length, and had to be covered 15 times. The handicapping was arranged by classes, with the exception that the supercharged cars were on the scratch mark.

The three Austins all got away well. Gordon Hendy obtaining a slight lead from H. N. Thompson, who was driving F. H. Boyd-Carpenter's smart, little red racer. On reaching the first bend, however, the order was reversed, and they were followed by J. S. H. Wilson (Austin) and the poorly-supported

THE Junior Car Club's opening meeting at Brooklands last Saturday was held, as usual, in fine weather, whilst a quite satisfactory number of spectators was present.

There were six races, the first of which, a novices' two-lap handicap, started at 2 p.m. The start and finish for this race were at the fork, and there were six competitors, although nine had entered. F. G. Maunde Thompson, driving a standard touring model Austin Seven, was the limit man, and his car appeared to be remarkably fast, as he led until about 300 yards past the fork after his first lap. At this point, however, he was overtaken by R. Plunkett Greene (Frazer-Nash), who was followed in turn by another Frazer-Nash driven by A. P. Glenny, and C. U. M. Walther (Austin). The race resulted in a win for R. Plunkett Greene at a speed of 81.64 m.p.h.

A Woman Wins.

Mrs. R. U. Dykes (Alvis) showed her skill as a race driver in no unmistakable manner in the second race, which also was a two-lap handicap. There was a large field and two supercharged cars were competing. One of these, the Halford Special, driven by G. E. T. Eyston, did not get off the mark so well as might have been expected, and Mrs. Dykes, who soon took the lead, remained in this position throughout the race. Her most dangerous opponent was Captain A. Frazer Nash (Frazer-Nash), who was unable to catch her, however, and had to be content with second place, B. H. Austin (Bugatti) being third. Mrs. Dykes's speed was 79.17 m.p.h.

The third race was exclusively for

disabled drivers, and although there were six entrants, only three lined up for the start, these being R. F. Messervy, driving E. Burt's supercharged Burt Special, B. H. Austin (Bugatti) and N. Fielden (G.N.). The race was over a distance of two laps, but a breakdown caused Messervy to retire on the first lap. It is hardly surprising, therefore, that B. H. Austin should prove the winner, as Fielden's G.N. was of a somewhat old type which he had bought for £5. In addition, one of the exhaust pipes broke away from the cylinder flange and trailed on the track. He carried on to the finish, however, but B. H. Austin, who has two artificial legs, won at a speed of 73.78 m.p.h.

Fast Austins.

Although the fourth race was for 1,100 c.c. cars, four Austin Sevens competed, one of which, driven by F. H. Boyd-Carpenter, was scratch with C. M. C. Turner (Gwynne). Gordon Hendy (Austin Seven) made a very good getaway, but Boyd-Carpenter was a little slower off the mark. He soon made up for lost time, however, but was unable to catch Hendy, although he succeeded in passing Turner. Hendy proved the winner, Boyd-Carpenter second and Turner third. Hendy's speed was 71 m.p.h.

The Long Handicap, over a distance of three laps for cars up to 1,500 c.c., again enabled Mrs. R. U. Dykes (Alvis) to show her prowess; incidentally, she had been re-handicapped after her previous win. The field included several cars and drivers of some renown, and there was every chance of a close finish. A. P. Glenny (Frazer-Nash) got into

1,100 c.c. class—only two entries—Dunfee (Salmson) leading; C. M. C. Turner (Gwynne), the latter already misfiring. They passed the second bend just before the 1,500 c.c. cars shot away in a fierce bunch, H. W. Purdy (Bugatti) drawing rapidly away from R. Plunket Greene (Frazer-Nash), Capt. Frazer-Nash in a similar car, and Urquhart Dykes (Alvis), with the supercharged class, comprising G. Newman (Salmson) and G. E. T. Eyston (Halford Special), close on their tails.

In the third lap Dunfee (Salmson) caught Wilson's Austin, and for eight laps he chased the two leading Austins, the position remaining unchanged, with Purdy (Bugatti) coming up extraordinarily well. He handled his car magnificently on the corners, his gear-changing being perfectly judged. Frazer-Nash went wide on the bends owing, it later transpired, to the fact that from the end of the second lap to the finish he was forced to rely on his hand-brake working on the back wheels only. Another Frazer-Nash, driven by Plunket Greene, suffered from what appeared to be axle judder and finally burst a rear tyre.

On the ninth lap Dunfee (Salmson)

dropped out, and Purdy (Bugatti) came into third place, behind the two Austins. He passed Hendy on the tenth lap, and next time round had overtaken Thompson (Austin), and was leading the field.



Mrs. W. Urquhart Dykes, who won two races, one of them at a speed of over 80 m.p.h. She was driving an Alvis.

On the 13th lap Newman, in the supercharged Salmson, who had been going well, retired, and Eyston's Halford seemed slowing somewhat; Purdy looked a certain winner, with Frazer-Nash coming up well into fourth place.

The penultimate lap nearly produced a tragedy. Thompson, who throughout the race had been cornering considerably faster than the majority, took the first sandbanks at an impossible speed in a vain effort to catch the Bugatti, and skidded into the protecting sandbank on the left. The driver and his mechanic were knocked out, and both were extremely lucky not to be badly injured. The car was completely wrecked.

This unfortunate accident left Frazer-Nash, who had previously passed Hendy, into second place, and this order was maintained to the finish.

H. W. Purdy (Bugatti) won at a speed of 55.47 m.p.h. The second man was Capt. A. Frazer-Nash (Frazer-Nash), who averaged 54.99 m.p.h., whilst the speed of Gordon Hendy (Austin) was 47.7 m.p.h. The class winners were: 750 c.c., G. Hendy; 1,100 c.c., no finishers; 1,500 c.c., H. W. Purdy. G. E. T. Eyston won the supercharged class.



THE SIX-HOUR RACE.

FULL DETAILS OF THE ESSEX MOTOR CLUB'S GREAT ENDURANCE TEST AT BROOKLANDS TO-MORROW, MAY 7th.



PRACTISING has been in progress all the week in preparation for the six-hour race which, organized by the Essex Motor Club, starts at Brooklands to-morrow at 11 a.m. The race is open to cars of every type provided that they are standard production models, and no fewer than 34 entries have been received. The cars will be sports models, and will be complete with hoods, windscreen, wings, and so forth.

The entries are divided into 11 classes, and the entrants in each class must cover a certain minimum distance in the six hours. These distances are shown in the attached list.

A number of large cars will be competing, as class 11, it will be seen, is for cars with engines of 7,000 c.c.

In view of his expressed intention to give up motor racing at the end of this season, it is interesting to note that Major Segrave is one of the competitors in to-morrow's race, but he will be driving a three-litre Sunbeam.

The Light Cars.

Amongst the cars in the 1,500 c.c. class will be Lea-Francis, Alvis, Aston-Martins and O.M.s, whilst in the 1,100 c.c. class there will be Salmsons, Amilears and a Sénéchal. The 750 c.c. class will be represented by two Austin Sevens, one of which is to be driven by J. P. Dingle, a previous successful exponent of this make.

The course of the race will be similar to that used for the British Grand Prix last year, with sandbank turns in the finishing straight, and, of course, the pits will be in use.

The cars will be lined up in the straight near the pits; at the word "go" drivers and passengers will run to their cars and raise and fix the hoods. The engines must in all cases be started by the self-starters. After ten laps the open cars must be brought into their pits, the hoods furled and properly secured. A complete kit of tools normally to be found on a car must be carried, and, in addition, there must be a spare wheel, a second spare wheel being allowed, if desired.

In order to guard against the use of freak compression ratios and so forth, only standard fuels may be used, and the tanks must be filled, under supervision, from pumps in the paddock, whilst reserve supplies at the pits must also be obtained from these pumps.

Tuning Rules.

Certain alterations from standard specification are allowed, but these must be of a nature which could be undertaken by an average owner-driver. Thus, the standard type of carburetter may be changed, petrol may be supplied to it under pressure, and the compression ratio may be raised or lowered.

A great amount of very useful information should result from an analysis of the behaviour of the cars in this interesting race, as not only will it be possible to judge the general performance of the vehicles, but, in addition, their road-holding and cornering capabilities will be tested to the utmost, as six hours of full throttle work under conditions which approximate very closely to road driving will be sure to find out any weak spots.

The regulations allow spare drivers to be nominated, but not all of the entrants have taken advantage of this clause. It is no mean feat to drive at full speed for six hours over a difficult course, and those who finish after playing a lone hand may well be proud of themselves.

The following list gives the make of car, the name of the entrant and the name of the driver.

Lea-Francis, H. E. Tatlow, G. Hendy; Lea-Francis, H. E. Tatlow, R. M. V. Sutton; Lea-Francis, H. E. Tatlow, S. H. Newsome; O.M., L. C. Rawlence, B. Eyston; Aston-Martin, C. J. Randall, C. J. Randall; Alvis, T. G. John, C. M. Harvey; Alvis, W. U. Dykes, W. U. Dykes; Alvis, S. C. H. Davis, S. C. H. Davis; Hampton, B. S. Marshall, B. S. Marshall; Sénéchal, A. V. Wilkinson, A. V. Wilkinson; Amilear, Vernon Balls, Vernon Balls; Amilear, R. Porter, R. Porter; Salmson, George Newman, George Newman; Salmson, G. Martinau, G. Martinau; Salmson, Capt. H. Hazlehurst, Capt. H. Hazlehurst; Salmson, J. Dunfee, J. Dunfee; Salmson, S. P. Dreyfus, S. P. Dreyfus; Austin, P. J. Calvert, P. J. Calvert; Austin, J. P. Dingle, J. P. Dingle.

Classes and Distances.

Class 1	500 c.c.	...	180 miles
" 2	750 c.c.	...	234 "
" 3	1,100 c.c.	...	282 "
" 4	1,500 c.c.	...	312 "
" 5	2,000 c.c.	...	330 "
" 6	2,500 c.c.	...	342 "
" 7	3,000 c.c.	...	348 "
" 8	4,000 c.c.	...	360 "
" 9	5,000 c.c.	...	366 "
" 10	6,000 c.c.	...	378 "
" 11	7,000 c.c.	...	390 "

The charges for admission to the track are as follow: admission, 5s.; cars alongside the track, 10s.; cars in garage, 5s. As the race is sure to attract a large number of spectators, those who wish to obtain the best vantage points are advised to arrive early at the track.



FROM time immemorial car manufacturers have struggled to include in their instruction books some simple, straightforward advice concerning gear changing, and they themselves would be the first to admit that, in spite of their precepts, few of their customers master the art under many thousands of miles of driving experience. One of the principal light car manufacturing concerns in the country—if not the most important of all—tackles the problem in its instruction book as follows:—

CHANGING UP.—To change from first to second or second to top, depress clutch pedal and release pressure on the accelerator pedal to reduce engine revolutions; at the same time disengage the lower gear and hold the gear lever for a second or so in neutral position, and then slowly engage the higher gear and let in clutch and slowly accelerate engine.

That, of course, is reducing the various operations concerned to their simplest terms; the actual method is not that adopted by the bulk of expert drivers. It is merely one way to change up which is fairly easy to master, and which makes it extremely improbable that any damage will be done to the gearbox by a clumsy driver. In connection with downward changes, the same instruction book says:—

CHANGING DOWN.—To change from top gear (third) to second, or second to first, slightly depress clutch pedal, keeping accelerator pedal depressed to increase engine revolutions; disengage higher gear, hold change-speed lever in neutral position for a second or so, and then slowly engage lower gear and let in clutch, being careful throughout the operation to see that the engine revolutions are maintained.

This advice is actually contrary to that given by the majority of driving instructors, but it has the merit of reducing the number of control movements necessary, whilst it is easily and quite pithily expressed.

Continuing with the written words of the particular concern in question, one finds a note in the catalogue to the effect that "the built-up design of the (gearbox) layshaft allows for the renewal, if necessary, of the constant mesh and second speed wheels as separate pieces." Here is the experience of ages peeping through. The company has learned that, no matter

G-R-R-R! — C-R-R-RUNCH! — HOW DISHEARTENING
ACCOMPANIED BY PROTESTS LIKE THAT FROM
METHODS ADVOCATED

how carefully they try to explain the operations of gear changing in their instruction book, people will crash second. They therefore tackle the matter in an eminently practical manner by making the parts likely to be damaged easy and inexpensive to replace.

Whilst the writer would be the first to admit the difficulty, and possibly even futility, of endeavouring to explain in black and white the exact manner in which expert drivers make faultless gear changes, with any car, at any speed, and under any conditions, he still has the courage to attempt the task.

It should first be explained that a practised driver can take the wheel of a make and type of car which he has never handled before and "go through" its gearbox from first to top and back again to first without making a sound. He does this purely by controlling the clutch shaft—that is, the shaft between the engine and the gearbox. It is the speed at which this shaft is turning which makes all the difference between quiet and noisy changes of gear, and—here's the rub—its speed is far from easy to govern.

When a gear is engaged and the clutch is free, the speed of the clutch shaft bears a direct and positive relation to the speed of the car. If the car is doing

Gear-changing is easily and comfortably practised —
preferably on an easy upward gradient — on a quiet
country road —

all the time the clutch is in the clutch shaft runs at the speed of the engine, whilst all the time the clutch is out and the gear in neutral it is either stationary or slowing down to the point of stopping.

Whenever a change of gear is made, think about the clutch shaft. Remember, when about to change down, that in the new gear the clutch shaft will have to run faster—therefore speed it up—and, having learnt what we have about it, the obvious way to speed it up is first to disconnect it from the back wheels by moving the gear lever to neutral. The clutch must then be engaged to link the clutch shaft to the engine, its speed raised to what is judged to be correct and the gear lever moved into the required notch.

Simultaneously with each movement of the gear lever the clutch should be freed, so that if a miscalculation is made, instead of the engaging teeth in the gearbox having the whole force of the revolving mass of the engine and flywheel attacking them, they have merely the inertia of the clutch shaft to overcome.

If the clutch shaft weighed several hundredweight, it would be absolutely impossible to change down, as many people do, by simply depressing the clutch and jabbing the gear lever into the next notch. When they do this, the teeth of two gears in the gearbox are engaged at a time when one wheel, which is attached to the road wheels, is turning very fast, and when the other—the one on the clutch shaft—has stopped or is just about to stop. The cause of the "crash" is the teeth grating together whilst the fast-turning wheel increases the speed of the stopping one to that of itself. Obviously, if the clutch shaft was very heavy and slow to respond to an increase of speed, no amount of jabbing the teeth together would result in the gear engaging. The car would come to a standstill before the driver got the gear home.

When changing up, exactly the same conditions prevail, except that the clutch shaft has been running faster in the lower gear and will have to run slowly in the higher gear, and thus, instead of the driver having to increase its speed, he has to reduce it. One way of doing this, say, when starting away, is to pause for a while when going from first to second, and to make the duration of the pause such that the clutch shaft speed falls the required amount.

This calls for some knowledge of its behaviour, or, in

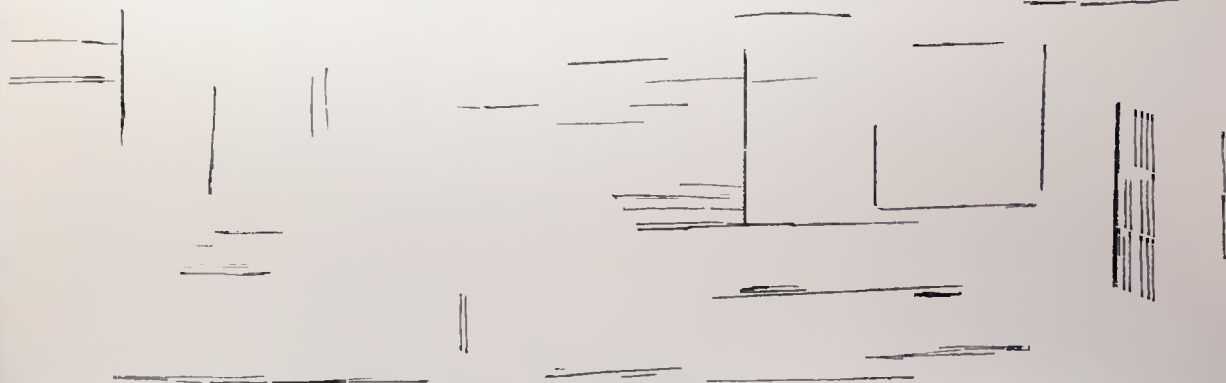
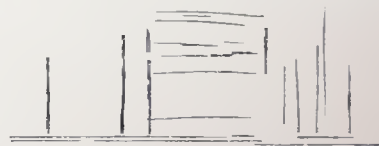
IT IS WHEN EVERY CHANGE OF GEAR IS
UNDER THE FLOORBOARDS. WHY NOT TRY THE
THIS ARTICLE?

20 m.p.h., and top gear is engaged, the shaft is running slowly; in second gear it is running faster, and in first faster still.

Imagine a car coasting down a hill with the clutch free and top gear engaged. The clutch shaft is then turning at the speed at which the engine would be running if the clutch were in. If the driver wishes to stop it, he can do so by shifting the gear lever to neutral, when the clutch shaft will come to rest and remain stationary until the clutch is engaged. The latter operation would increase its speed to that of the engine, which, presumably, would be ticking over. If the driver, whilst still coasting at 20 m.p.h., then wanted to increase the speed of the clutch shaft to its previous rate (that is, its normal top-gear ratio), he could do so with the accelerator. If he successfully raised its speed to exactly the right degree, he could then pop the gear lever into top without a sound and without freeing the clutch.

The foregoing should be read through two or three times. The great point is that the driver has complete control of the speed of the clutch shaft. He can make it run faster or slower by the use of the clutch pedal and the accelerator, simply by remembering that

—in traffic, however, it is quite another matter, so that proficiency is hard to acquire and seldom properly learned.



other words, an acquaintance with the particular car in question. The car may have a fairly heavy clutch shaft, when a long pause would be necessary, or it may have a fairly light one, when a short pause would suffice. Similarly, if thick oil is in the gearbox, this will put a drag on the clutch shaft and slow it up quickly, whilst, if the oil is thin and the bearings free, it may go on spinning for five or six seconds after the clutch has been freed and the gear moved to neutral before its speed of rotation falls appreciably.

Expert drivers thwart its whims by controlling its speed with the engine. When changing from first to second they first move to neutral and then re-engage the clutch, listening intently meanwhile to the engine which, with their foot off the accelerator, is, of course, slowing down fairly rapidly. When they think that it has slowed down to the speed at which it will be running when the gear is engaged, they slip in the gear, freeing the clutch as they do so in case they may have made a bad guess.

When changing down on a strange car, an expert takes its general characteristics into account. If it is the type of car likely to be "happy" in second, at 20 m.p.h., he starts to change down from top at about 15 m.p.h.

First he moves the gear to neutral, then engages the clutch, and, with the accelerator, speeds up the clutch shaft to what he judges to be the correct degree. He then declutches and simultaneously moves the gear lever into second. This calls for a little practice to make each movement separate and distinct, and not to waste any time during the later stages of the change.

The important thing to remember is that immediately the clutch is freed, the speed of the clutch shaft begins to fall very rapidly, therefore, after it has been speeded up in readiness for a change down, no delay whatever must occur between freeing the clutch and pushing the gear lever home. Judgment, of course, is most important, and those who lack it will never learn

to change gear silently, although practice will help them to make passably good changes.

Here is a good way to practise. Take the car to a quiet road with a gently falling gradient, and coast down it in neutral at about 20 m.p.h. Then, with the clutch engaged, speed up the engine until you think that it is running at the speed it would ordinarily run in top gear at 20 m.p.h., and endeavour, without using any force at all, to pull the gear lever into top. If you have judged the speed correctly, top gear will engage without a sound; if you have judged wrongly the teeth will be felt rubbing against one another. There is no need to use the clutch at all when practising in this manner. In the same way it is unnecessary to use it when engaging gear at any time. The only reason why one does free it, as previously explained, is to give the gearbox teeth an easier time in the event of a bad estimate having been made.

It would, perhaps, be fitting to conclude by mentioning an experience of the writer who was once driven by a very expert driver from Maidstone to Dover in a car with the clutch seized up absolutely solid so that it could not be freed at all.

A start from rest was made by engaging first gear and then using the electric starter, when the car got away—of course, still in first speed. The driver at about 12 m.p.h. eased the accelerator, slipped into neutral, took his foot right off the accelerator, listened keenly to the engine note and at the right moment engaged second. He then increased the speed of the car to about 25 m.p.h. and, repeating the operation, engaged top. Dover was safely reached after about 50 such changes of gear had been made without a sound emanating from the gearbox. The driver in question was not a superman, nor was he a wizard; he had simply learned that the way to change gear is to control the speed of the clutch shaft by the intelligent use of the accelerator, whilst he had, of course, the gift of judgment.

AN INGENIOUS COLLAPSABLE CARAVAN.

WITH the object of providing a caravan which is of ample size for comfort but which is not cumbersome when being towed Messrs. Sievwright, of Sedgley Street, Wolverhampton, have introduced a caravan in which the body is split horizontally, the top half telescoping over the lower part.

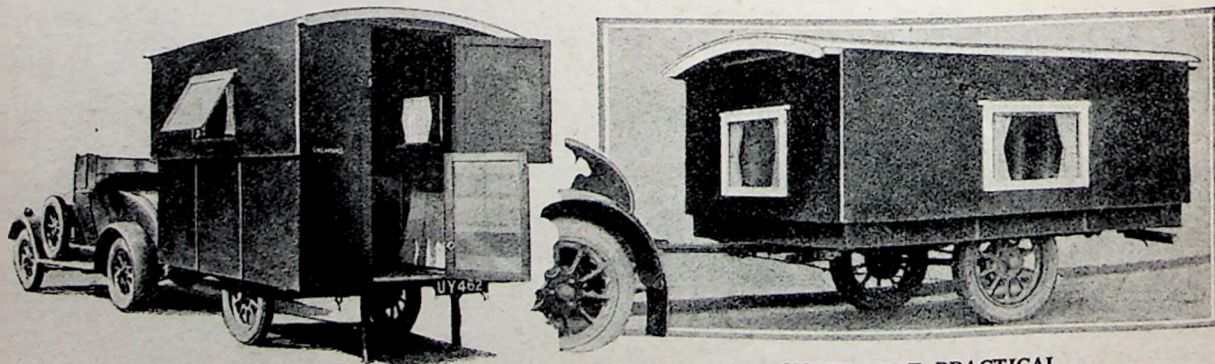
With the head in the "down" position the overall height of the caravan is less than 5 ft. 6 ins., whilst when the head is extended the crown of the roof is 6 ft. from the floor. The latter is 20 ins. off the ground, the overall height with the head up is 7 ft. 10 ins., and the interior dimensions are length 8 ft., width 6 ft. The total weight ready for the road is 7 cwt.

At the rear of the caravan is a handle and ratchet-wheel arrangement which operates the four wires for

lifting the roof. When the head is up, the load from the wires can be relieved by inserting a series of bolts in the points attached to the top and bottom halves. Wing nuts are used to prevent rattle when the head is in the lower position.

The exterior is panelled in steel-faced plywood mounted on a light oak framing, and is finished in cellulose of any desired colour. Inside, a spring mattress is arranged to fold down for use as a double bed, but it can be used as a settee when folded up against the wall. Ample locker space is provided and the interior furniture includes a folding table. There are three windows, each being arranged to open.

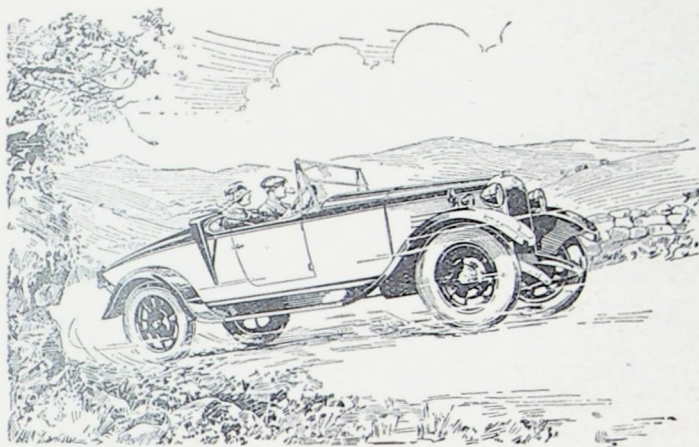
The price of the complete caravan, which is equipped with an automatic brake, is £75 10s.



NOVEL, BUT PRACTICAL.

Two views of the interesting collapsable trailer caravan which has just been introduced by Messrs Sievwright, of Wolverhampton. (Left) The caravan with the head extended and (right) as it appears when ready for the road.

FOR DISTINCTION



There's added pleasure in owning a "Nippy Nine" because it is so *distinctive* in every way. It has that thoroughbred air that is so gratifying. There is nothing "cheap" about its looks or finish. The finest material built worthily into a fine motor-car by methods that are the very reverse of "mass-production." Every engine carefully run-in on the bench; then tested under

power; *then stripped down and examined*: the chassis road-tested; then "final"-tested; then once more tested on the road to make doubly sure that no flaw passes through. These are Rover methods: there's the reason a "Nippy Nine" is a car of distinction both in appearance and performance. You'll find no better car at anything like the price of the Rover.

There are 9/20 h.p. Rover models from £220 to £260.

The new Saloon at £250 is a marvellous proposition.

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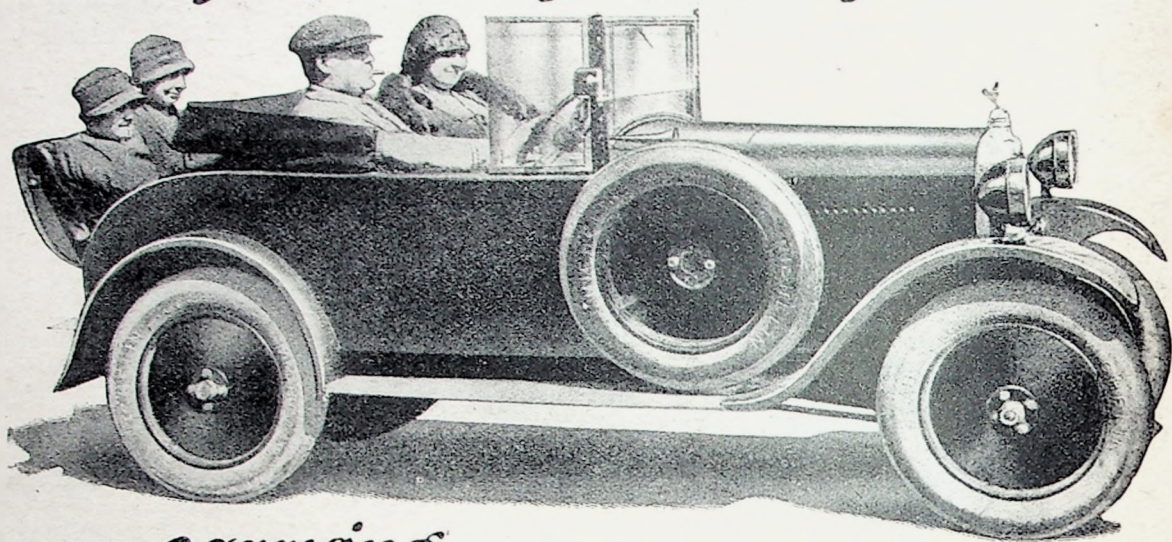
9/20 H.P.

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carrying Four in Perfect Comfort

Dear Sirs,

21/4/27.

Please find enclosed a photo of my 7/12 h.p. Cabriolet, with three adults and a child of ten years, with which I travelled 78 miles in the splendid time of $2\frac{1}{4}$ hours, and the consumption of petrol was $1\frac{1}{2}$ galls. I would like to add that I have had no trouble whatever, and, for comfort, reliability and durability, I consider the PEUGEOT the finest small car on the road to-day. You are at liberty to use this photo, etc., in any manner you wish.

I remain,
Sincerely Yours
(Signed) A.W.B.

The finest 7hp on the Road
£165

Peugeot

(PRONOUNCE IT PUR-JO)

50 Miles per Gallon

50 Miles per Hour.

TAX £7.

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A New 10·4 h·p Berliet

AN ATTRACTIVE NEW
MODEL TO REPLACE THE
10-20 H.P. IT HAS SIDE-
BY-SIDE VALVES AND
GREATLY IMPROVED
BODYWORK.

First Description, Illustrations and Road Test.

AFTER the very favourable impression created by the 10-20 h.p. Berliet at the last few Motor Shows, it may come as something of a surprise to readers to learn that this has now been completely superseded by a new model, which we examined and tried recently. It was the four-seater de luxe, priced at £250, and the most cursory examination at once convinced us that this latest production was well up to the traditions of the famous Lyons factory. The chassis weight of this model is 12 cwt.—a very reasonable figure. The bodywork is particularly roomy and handsome, the imitation leather upholstery coloured to match the paintwork being particularly attractive. With a wheelbase of 9 ft. 2½ ins. on which to work there would be little excuse for the designer who could not provide plenty of leg-room, and in this respect we were not disappointed. In addition the front seat is adjustable.

We were particularly impressed by the four large doors and by the substantial bumpers fore and aft. Another feature is the excellent valancing of the front part of the car. The hood is of imitation leather and the all-weather side curtains, which are of the rigid pat-

tern, fold neatly away into a case which fits behind the squab of the back seat.

Turning now to the chassis, the neat layout under the bonnet appeared to us to give easy access to the magneto, carburetter and other important points. One glance under the bonnet also practically answers the question of in what mechanical respects this car differs from its predecessor.

The engine is rather larger—1,480 c.c. as against 1,171 c.c.—but the tax is increased by only £1, being now £11. A somewhat revolutionary alteration is the return to side-by-side valves.

The electrical system has also been radically altered. The chain-driven dynamotor has been replaced by one that is coupled direct to the front end of the crankshaft, and so runs at engine speed. A new type of magneto, fitted with automatic centrifugally operated spark-timing control, has been adopted, whilst other highly desirable features not often found on small cars of popular price are the large petrol tank at the rear and the four-speed gearbox.

In the course of a brief road test we found gear-changing to be light and simple, but, at the same time, we were impressed by the ability of the engine to "hang on" in top gear—a virtue commoner on cars with three than with four-speed gearboxes. Tackling some of the fairly steep slopes in Richmond Park we found that there were few of them that could not be rushed in top gear, while if they were approached gently the car would bound away on making a quick change-down into third, accelerating easily up to over 35 m.p.h.

At 50 m.p.h. in top gear there was certainly a feeling that the engine was revving rapidly, but there was still some little speed in reserve and the engine appeared to be commendably free from objectionable periods. We were particularly interested to observe the working of the automatic spark control, and found that its action was remarkably efficient; with the car just crawling along on the level in top gear at about 6 m.p.h. it was possible to make a distinctly snappy getaway on the accelerator. There was no tendency to knock or labour, while at high speeds, to judge by the feel of the engine, a good advance was obtained.

Whilst we did not have the opportunity during our short run to test the car over really bad roads, we were favourably impressed by both the steering and the springing. The four large shock absorbers appeared to do their work most efficiently, whilst the brakes seemed powerful and smooth in action.

- (1) The rigid side curtains fold into a case which fits behind the back seat squab.
- (2) The power unit from the off-side. It has side-by-side valves.

- (3) The front of the car is protected by a substantial bumper, and is well valanced.
- (4) The magneto and carburetter are on the near side. Both are easily accessible.



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," 7-15, 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.

AIR v. WATER COOLING.

The Controversy Continues—Opinions Divided.

As Silent as Water-cooled Engines.

It is a pity that "Jowett" should rush into print condemning the air-cooled engine with such thoughtless remarks; evidently he has not had much experience with them, or, at any rate, with the modern types.

Marvels of Power and Efficiency. Present-day motorcycle engines are marvels of power, efficiency and reliability. A particular engine I have in mind, namely the 350 c.c. Bradshaw, develops 17 b.h.p. on the bench, while a supercharged o.h.v. 350 c.c. J.A.P. which I have in my possession develops well over 18 b.h.p.

"Jowett" says that air-cooled engines are noisy; I do not agree. A four-cylinder air-cooled engine with enclosed valve gear can be as silent as any water-cooled car engine now on the market. I must admit they use slightly more oil than the water-cooled variety, a difference of about 100 m.p.g., which is negligible. As for wear in the valve guides, this takes place no more rapidly in the air-cooled than in the water-cooled engine.

I have yet to see a car engine start at the first turn of the handle, firing evenly and taking the load of the car without stalling on a frosty morning, whereas a good motorcycle starts first kick, hot or cold, and takes the drive without any fuss or waiting to get warm. As for being troublesome to keep in adjustment and repair, ask any motor-

cyclist of several years' practical experience—he knows!

In conclusion, I might add that during the "Great Struggle" I have had several aircraft machines through my hands from a little scout to a giant bomber, and for sheer power, reliability and speed I have a preference for machines with air-cooled engines, my favourites being the French rotary Gnome and the British Armstrong-Siddley.

HOT AIR.

The Question of Simplicity.

In the very interesting correspondence on the subject of engine cooling, your correspondents seem rather to have missed the point, namely, that only in comparatively small engines is air-cooling more simple.

Engine Seizure.

Aero engines are quoted as examples of air-cooling, but your correspondents ignore the wonderful air-draught obtained at aeroplane speed. I maintain that the public dislike an air-cooled engine, but my main reason for preferring a water-cooled engine is that I prefer four cylinders: I would, however, rather drive a Jowett than an air-cooled twin.

It is quite possible for an air-cooled engine which has an adequate supply of oil to seize, as I know from experience, but I have never known a water-cooled engine seize except through oiling faults.

D'YRSAN.

A Plea for Four Speeds.—Standardized Controls.

Improving Performance.

It would be interesting to know why there are still so very few four-speed light cars on the market. *The Light Car and Cyclecar*—indeed, all the motor papers—have shown in their correspondence columns, as well as in numerous articles, that

Unanimity of Thought.

with a small engine propelling a big load—which applies to practically every present-day car—a four-speed gearbox improves the performance to a very considerable extent, whilst it makes gear-changing very much easier. In view of the fact that performance is all-important and difficult gear-changing the bugbear of probably 80 per cent. of drivers, what possible excuse is there for fitting cars with only three speeds? I know that a four-speed box costs about £3 or £4 more than a three-speed box, but surely this alone cannot be the reason why there are so few four-speeders on the market? What are the views of manufacturers?

E.G.G.

A Danger which Could be Eliminated.

How long will it be before manufacturers see fit to decide on a standard arrangement of the pedals and standard positions for the gears? At the present time it is very confusing for those who have to drive different cars every day to find that sometimes

Confusing Pedal Positions.

the accelerator pedal is on the extreme right and sometimes between the brake and clutch pedal. I said confusing; perhaps I should have said dangerous, for I have just had a very narrow escape from a nasty crash through depressing the accelerator instead of the brake pedal of a strange car.

So far as the arrangement of the gears is concerned, there is no actual danger to the driver, but, of course, there is always the risk of damaging the car through changing from second to first, say, instead of second to top. I cannot see any reason why all these difficulties should not be settled by standardization.

H. R. JONES.

Through Europe & Africa

-AT 1,393 M.P.G. OF

**SURBITON
BROOKLANDS
MEETING**

April 23rd, 1927

**Every
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*In so far as this advertisement
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Wakefield Castrol Motor Oil

The Hon. Mrs. Victor Bruce, driving a
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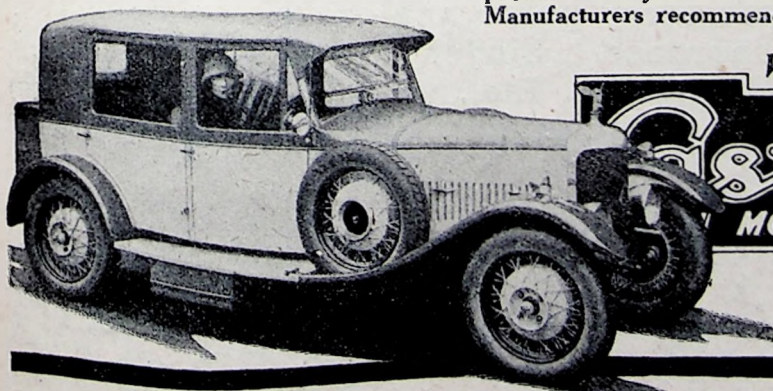
has completed a 6,227-mile Continental tour under the Official Observation of the Royal Automobile Club. Of this distance 1,000 miles were covered on Montlhery Track, at an average speed of 50 miles per hour. The road portion of the mileage embraced Monte Carlo, Rome, Naples, Messina, Tunis, Algiers, Fez, Tangier, Gibraltar, Madrid, Montlhery.

The engine lubricant chosen for this strenuous test was Wakefield CASTROL "XL," as recommended by A-C (Acēdes) Cars, Ltd. The sump of the A-C engine was replenished at 3,361 miles and 4,888 miles (prior to running on the track), the consumption working out at

1,393 miles per gallon,

despite the heat and bad roads on much of the route, and the long run at 50 m.p.h. on the track.

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OUR READERS' OPINIONS (contd.).

A.C. Owners' Experiences.

24 m.p.h. in Bottom Gear Claimed.

The mileage to date of my 1926 12 h.p. two-seater A.C. is just over 18,000 and includes many long tours in various parts of England and Scotland. The average distance covered by each of the original tyres worked out at 14,000 miles. As regards petrol consumption I find 30 m.p.g. is the approximate figure, but the oil consumption is rather heavy and varies according to speed maintained. The maximum speeds on gears are as follow:—First, 24 m.p.h.; second, 44 m.p.h.; top, over 60 m.p.h.

So far I have only had one trouble on the road, this being a blown cylinder head gasket. The car is very comfortable and is not tiring to drive over long distances. My longest run completed in one day was from London to Tiverton and Exeter and then back to London (380 miles) and this was covered in 10½ hours' running time. A comfortable touring speed is 45-55 m.p.h. The rear-wheel brakes are good and I have now had them supplemented by front-wheel brakes fitted by Hydraulic Cable Brakes, Ltd.

LESLIE LEAPMAN.

14, Breaknell Gardens, London, N.W.3.

16,000 Miles Without Decarbonizing.

In October, 1923, I bought a four-cylinder Royal model A.C. The car has been used in all weathers and has run close on 16,000 miles. Although never having been decarbonized or touched in any way the engine is as efficient as ever. Given favourable conditions the car will take two people up Wrotham Hill, on the London-Folkestone road, quite comfortably in top gear; it will travel at a walking pace through traffic with equal ease, accelerating smoothly and quickly to a comfortable touring speed of 30 m.p.h., or, if opportunity and occasion demand, to well over 50 m.p.h.

The petrol consumption varies between 30 m.p.g. and 35 m.p.g., according to the load carried and the nature of the roads. Its oil consumption is quite economical. I have spent nothing at all on repairs, and my outlay on replacements, with the exception of tyres, was on a dynamo belt.

The roominess and comfort of the body, the flexibility of the springing and the instant response to the slightest pressure of the accelerator pedal are very delightful.

In the light of my own experience I have no hesitation in recommending the A.C. as a handsome, speedy and reliable little car, which will prove to be at once the pride of its owner and the envy of his friends.

M. R. MACDONALD.

Sunnyside, Grange Road, Gravesend.

Competition Work.

I have been an enthusiastic A.C. owner since 1921 and took delivery of my present model, which has now done 15,000 miles, in December, 1924. The original covers are still quite good and I have had one puncture only. Petrol consumption, with a Claudel-Hobson carburettor and 95 jet, is 30 m.p.g., but this can be improved by fitting a smaller jet. I find that the best performance can be obtained when using National Benzole Mixture. The oil consumption works out at about 2,000 m.p.g. I use Price's oil, as I find that it gives a silkiness of running which is not obtained with other brands I have tried. In top gear the range of speed is from 3 m.p.h. to 55 m.p.h. Springing is excellent and this, combined with balloon tyres, makes it possible to keep up high average speeds over bad roads.

The Marles steering is very light and the car has a good lock. The all-weather equipment is quite satisfactory, whilst the hill-climbing ability and reliability are beyond question. My car is put through a good deal of competition work, which soon finds out any weak spots which may exist, but I have never had the slightest trouble and I have yet to find a freak hill which it will not climb.

A great feature of the car is its ease of maintenance, for there are only three greasers and one oil filler serves both the gearbox and back axle. In addition the brake adjustments are very accessible. The A.C. is beautifully finished and is supplied with a generous range of accessories and tools. It is always easy to start on the coldest morning.

LILIAN M. ROPER.

Lillington, Leamington.

20,000 Miles in Two Years

My 1925 12 h.p. Royal model A.C. has now covered just over 20,000 miles, in the course of which I have had a fair chance to test its reliability. I have never been held up on the road through any trouble whatsoever other than punctures. Soon after delivery I fitted a set of Hartford shock absorbers fore and aft, as I found the car had a tendency to bounce at speed; since fitting the Hartfords the car holds the road and rides very comfortably at any speed within its range, which is up to 55 m.p.h. Petrol consumption appears to be about 35 m.p.g., although no accurate test has been made.

The gearbox is somewhat noisy on its lower gears and gear changing requires a certain amount of practice. The only replacement necessary since the car was new was one new valve, due to the excessive use of an extra-air inlet.

The bodywork and upholstery are very well made and are delightfully comfortable.

J. H. BAILEY.

30, Victoria Road, Barnsley.

Experience of Two Models.

I have had two four-cylinder A.C. two-seaters. I was very satisfied with my 1922 model, and now own a 1926 A.C., which has run over 12,000 miles. It has not been neglected, but, on the other hand, it has not been "nursed"; I have used it very hard, sometimes on roads which are not shown on most maps, the one between Tomintoul and Braemar being an example. I did a 2,397-mile tour in it and the only troubles were three punctures, near John o' Groat's. It has never stopped involuntarily for any reason other than punctures, and has only once refused to start readily, and that was after being out in the open during a cold night in late autumn. It has climbed every hill that I have encountered without faltering, including Beggars' Roost, Bluehills Mine, Porlock, Lynmouth, and many of the Scottish test hills. As regards repairs, a broken spring leaf has had to be replaced, and the engine was decarbonized at 10,000 miles, whilst one new set of tyres has been fitted. It is very fast on hills. I often do a journey of over 180 miles between breakfast and teatime and am practically never overtaken. Its pick-up is now as good as ever, if not never overtaken.

J. M. TAYLOR.

Reed Vale, Teignmouth, Devon.

Praises the Performance.

I own a two-seater Royal model A.C., purchased new in March, 1925, with which I have covered 20,551 miles, a very great deal of which has been over roads in Lakeland and Wales, as, until recently, I was living in Liverpool.

I have found the car very satisfactory. It is delightfully comfortable, both as regards seating and suspension and control. The Marles steering is really excellent, for it is very light and to date the amount of wear appears to be practically nil. The brakes also, although acting only on the rear wheels, are remarkably smooth and powerful and have been relined once.

I have found the car very reliable and its performance, especially on top gear, is excellent; a smooth 5 m.p.h. to over 50 m.p.h. is obtainable, the acceleration is very good and the car will take most main-road hills in top gear if properly driven. Petrol consumption works out at 35 m.p.g. and oil 1,500 m.p.g.; it is very light on tyres, as I did not purchase the first replacement cover until 14,000 miles had been covered and I still have one original cover in use. All tyres used have been Dunlops. A word of praise is due to the 12-volt C.A.V. lighting and starting set, which has been splendid; the starter has never failed to start the engine in a very few seconds.

The maintenance of the car is very straightforward, and the combined gearbox and axle takes very little oil, whilst its position obviates the necessity for removing seats and floorboards. With the exception of a little play in the off-side front hub the bearings and steering heads appear to be O.K. The only part of the whole car I have had any trouble with is a broken spring leaf or two, which I think was due to driving at high speeds over very bad roads with no shock absorbers. I have now fitted Hartfords and they appear to make all the difference.

C. A. BEAN.

Lavant House, near Petworth, Sussex.

OUR READERS' OPINIONS (contd.).

The Police and Trapping.

I was glad to read "A Country Parson's" letter on trapping, but I think he treated it rather too mildly. It has for some years been generally recognised that no one takes the slightest notice of the preposterous speed limit of 20 m.p.h., and now that it is practically certain that it will be either abolished entirely or raised to 40 m.p.h., I think it is very unreasonable for the police to continue trapping for speed only. It seems that it is fines which can be extracted from motorists that are the attraction, and that the safety of the community really has very little to do with the subject. In conclusion, I should like to make it quite clear that I am dead against dangerous driving, and would like to see the police more vigilant in combating it.

JUSTICE.

Dogs on the Roads.

It is only fair that Mr. Fairholme should hear the other side of the question of dogs on the highway. It is not at all surprising that he has received information of serious injury to animals on the roads; he seems to forget, however, that, although no human being in his right mind would injure an animal if there were the means of avoiding it, it is equally true that motorists have, in endeavouring to avoid dogs, endangered the limbs if not lives of their passengers and also of passing pedestrians.

In Birmingham there is a by-law which forbids anybody from even taking a dog for a walk without a lead after dark. This should apply at all times of the day, for, after all, the roads were not made as a playground for dogs, as they have become in some districts.

S.P.

Taking a Hair-pin Bend.

With reference to two photographs published on page 628 of last week's issue of *The Light Car and Cyclecar*, I wish to explain my method of taking a hair-pin bend, which you do not appear to think successful. In fairness to the car, I must point out that a Newton-Ceirano has an exceptionally good steering lock, and it can be seen from the photo that I have driven round the inside of the bend without any skidding. Skidding is undoubtedly spectacular, and a sure method of getting round; it was employed by a large number of competitors through sheer necessity (as was my own case in another car last year), whereas the excellent steering lock on my Newton-Ceirano enabled me to take the corner without being spectacular, thus saving possible tyre trouble. Incidentally, my car had ample power to climb the few feet of exceptionally severe gradient on the inside of the bend.

R. M. DIXON.

CONDENSED CORRESPONDENCE.

"Focus" requests us to point out that the Singer Senior saloon he advertised for sale a fortnight ago was sold immediately. He asks the very large number of applicants to accept his apologies for not acknowledging their letters.

F.J.F. (Plymouth) wishes to place on record the very broad-minded and expeditious way in which the Motor Union Insurance Co. have dealt with his claim. He insured with them through the coupon issued with Letts' Motorists' Diary, but was unable to make his claim within seven days of the accident, as specified in the policy; despite this an early and complete settlement was made.

In the course of a long letter Mr. R. H. McKay (Mitcham) writes of the splendid service he is obtaining from a 1922 G.N. purchased for only £32 10s. from Marshall's Motors, Ltd., 26a, Russell Street, Queen's Road, Battersea. Up to the present he has not had to spend any money on repairs and, in his opinion, the car will cost him very little more to run than a 3½ h.p. motorcycle combination which he was using last year.

"E.7228" (Wellington) writes to express his satisfaction at the excellent value for money which he has obtained from two tyres which he purchased from the Birmingham Motor Tyre Repository Co., 75-77, Broad Street, Birmingham. The two covers were purchased at 37s. 6d. each, and have seen service on the back wheels of his car for 17,000 miles. They have now been transferred to the front wheels, where "E.7228" expects them to cover another 3,000 miles or more.

INFORMATION WANTED.

TALBOT.—Readers' experiences of the 1924 and 1925 8-18 h.p. models would be very much appreciated.—D.F.W., c/o The Editor.

G.N.—The opportunity to buy or borrow an instruction book for this car would be appreciated.—A. M. Keefe, 3, Stoford Place, Stoke, Plymouth.

CAMPING SITE.—Any reader who knows of a good camping site in the vicinity of Ilfracombe, Devon, is asked to communicate with J.G., 133a, Wellington Road, Northampton.

AUSTIN SEVEN.—Any owner of one of these cars who has used aeroplane elastic as a shock absorber for the rear axle is asked to explain how it can be fitted.—C.O.C., No. 30 Quarter, Pinchurst, Farnborough, Hants.

ROVER EIGHT.—Any reader who has an instruction book for the 1923, 1924 or 1925 models, which he is willing to lend or sell, is asked to communicate with the Rev. Colin Marr, 4, Park Terrace, Whitby, Yorks.

LOST.

LOST.—A hood cover on the Maidstone road, on Sunday, April 24th; the finder is asked to write to E.P., c/o The Editor.

CLUB ITEMS AND SPORTING EVENTS.

SHACKERSTONE SPEED TRIALS.

Speed trials organized by the Sutton Coldfield and North Birmingham A.C. and the Aco M.C. Coventry will be held on Saturday, May 14th, at Shackerstone Avenue, Atherstone, commencing at 2 p.m. The event is open to members of these clubs only and will be run under the general rules and permits of the A.C.U. for motorcycles and the R.A.C. for cars. Entries must reach either of the secretaries of the meeting, Mr. J. Woodhouse, 10, Warwick Chambers, Corporation Street, Birmingham, or Mr. W. J. Palmer, 6, Hales Street, Coventry, by Monday, May 8th.

LONDON TO EDINBURGH RUN.

We have received a copy of the prospectus for the M.C.C.'s 20th London to Edinburgh run. The start will be from Wrotham Park, near Barnet, on Friday evening, June 3rd, and the route will be through Pottery Bar, Hatfield, Stevenage, Grantham, Newark, Doncaster, Ferry Bridge, Olley, Bolton Abbey, Buckden, Fleet Moss, Akrigg (observed hill), Thwaites, West Stonehouse (observed hill), Tan Hill, Brough, Penrith and Carlisle to Edinburgh. A stop will be arranged at Grantham for breakfast, and at Ilkley for a second breakfast. Lunch will be at Carlisle and tea at Moffat. Entries and fees should be sent to the trial secretary, Mr. F. T. Bidlake, 84, North End Road, Golders Green, London, N.W.1, so as to reach him not later than last post on Saturday, May 21st.

MIDDLESEX COUNTY A.C.

The prospectus of the Brooklands meeting, which will be held on May 21st, at 2 p.m., has now been issued. The open events will include a 50-miles handicap race for any type of car up to 3,000 c.c., and other handicap races. Closed events include a speed-judging competition, a stopping and starting race and a hill-climbing competition. Valuable prizes are offered for all these classes, and full particulars with supplementary regulations may be obtained from Capt. W. J. Lendrum, 10, Leaside Avenue, Muswell Hill, N.10, and entries should be posted to him not later than Monday, May 16th.

CUMBERLAND COUNTY M.C.C.

The final arrangements have been made in connection with the club's open Alan Trophy reliability trial on Saturday, May 21st. The course will be similar to that selected for last year's event, which had to be abandoned, covering a total distance of 170 miles. The route is by Dalton, Keswick, Gramere, Oxenfell, Broughton-in-Furness and Wool Pack Inn, the afternoon course being the morning one reversed. Well-known Lakeland test bills, such as Wyre Pass, Hard Knott, Rake How and Blae Tarn will be included. Entries will be received by the hon. trials secretary, Mr. Fred. Howlands, Douglas House, Nelson Street, Carlisle, up till the mid-day post on Saturday, May 14th.

WOODFORD AND D. M.C.C.

A half-day reliability trial will be held on May 15th in place of the proposed speed-judging contest. On May 22nd there will be a social run to Clacton-on-Sea, starting from the George Hotel, South Woodford, at 9 a.m. Particulars may be obtained from the hon. secretary, Mr. L. J. Hugo, Belvedere, Montalt Road, Woodford Green, Essex.

TAUNTON M.C.

Considerable enthusiasm prevailed at the recent annual meeting when it was stated that the membership is over 100. There was a satisfactory credit balance on the year's working, and the following officers were appointed:—Captain, T. W. Drayton; vice-captain, P. V. Hare; hon. treasurer, H. T. Kite; hon. trials secretary, A. C. Westlake; hon. secretary, A. G. Wilson. The opening run was fixed for May 8th, when members will leave the Castle Hotel at 2.15 p.m. for Porlock.

SCARBOROUGH AND D. M.C.

The following cars gained awards in the Scarborough One-day Trial.—1, T. Harwood (Riley); 2, A. N. Cooper (Ithode); 3, H. Coates (Berliet). N. Whithead (Vauxhall), Miss M. V. Milne (Austin) and Miss L. M. Roper (A.C.) qualified for special prizes. The car winners of the two-day trial were—1, G. F. Robertshaw (Sunbeam) and 2, O. Langton (Austin). Silver vases, presented by Mr. W. A.

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Strongly constructed—a necessity for the touring motorist. For 1927 Morris cars, 25/-. Other models prices on application. Carriage extra.

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The Outer Case is made of best veneer birch wood, 3-ply body, 5-ply edges, covered with black vulcanised fibre, turned over at edges and strongly riveted. Fall-down hinged front and lid protected all round with aluminium binding. Fitted with two nickel-plated sliding nozzle locks and three spring bolts. Two stout black bridle leather straps at each end for fixing to grid, and hardwood battens on bottom. The inner cases are of brown compressed fibre, lined cloth, and fitted with nickel slide nozzle locks.

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No. 920. Overall measurements when closed for packing, 19 in. x 8 in. x 3 in. .. Each 17 6

THE NEW "CARRY-ON" PETROL AND OIL CHEST.

No. 5318/80. Comprises two tins, one for petrol, and one for oil. The petrol tin has a screw stopper and the thread is suitable to use with own petrol filler. Spring clips are incorporated in lid to carry any make of Sparking Plug. Fitted with best quality N.P. lock and two keys, rattleproof and waterproof. Size 14 1/2 in. long, 8 in. high and 6 1/2 in. wide. Beautifully finished black enamel. Complete with bolts and nuts for fixing 25/-

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SIMONIZ and CLEANER

In attractive tin with necessary cloths. The secret of Simoniz lies in using suitable cloths. Price 15/-. Post Free.

"EURAL" HORN SWITCH.

Makes it possible to clear the road without removing hand from steering wheel, leaving the other hand free to operate hand brake gear lever. No need to reach for the horn bulb or grope for a push-button. Easily fixed, made to fit any car. Black Enamel. 5140/80 21/-

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Matches upholstery. Neat and well finished. In Antique effect. Leather in grey, blue, red. Price 6/- each. Post Free.

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Makes the driving seat fit your back and prevents a strained position. Well made. Size 18 in. square, 4 1/2 in. deep in centre. In Antique Leatherette to match car. Price 30/-. Special size for bucket seat of 1927 model. Price 25/-

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The "Clippet" tools are specially designed for MORRIS CARS and make the job perfectly easy. NO DAMAGED HANDS. This illustration shows the spring compressed and firmly held by the retaining clips, ready to be replaced. 4/6 Post Free.

"STADIUM" METAL TOOL BOX.

Suitable for light cars and small saloons. Made of heavy gauge steel fitted with strong combined lock and latch. Finished in hard glossy black enamel. Model 6664/80. Size 15" x 7" x 7". 12/6 each.

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An artistic FLOWER VASE with Non-splash top. Can be instantly detached for emptying and cleaning. Fitted by round plate at base, and entirely rattle-proof. Nickel-plated finish. Silver Plate or Antique Oxidized finish.

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Motoring Intelligence

S.P.C.M. PROSECUTION RESULT

Motorists' "Find "

JUDGE'S WARNING

At the Court of Roads yesterday, before Mr. Justice Sump, two motorists appeared to defend an action brought at the instance of the Society For The Prevention Of Cruelty to Motors.

Counsel for the Society characterised it as an extremely bad case involving the most gross cruelty to a normally contented and efficient car engine. Inspector Oyle, called, deposed that he saw the car in question labouring painfully up a quite moderate gradient, knocking loudly, and so overheated that it was pathetic to see. On stopping the driver

and his companion at the top of the hill, witness made an inspection and found that the trouble was due to the use of an inferior grade of lubricating oil. This must have been going on for some time, for there was considerable deposit of carbon on the cylinder heads and pistons, the rings were gummed up, and the exhaust valves were badly burnt and distorted.

"Shocking," said the Judge.

A PLEA OF INADVERTENCE.

Defendants pleaded inadvertence, and in view of their previous good record the Judge took the lenient course of binding them over to use only The New Process Oil in future. "Dependability," said the learned Judge,

"and a constant standard of efficiency in a motor lubricant, are the essential elements of humanity to willing engines, and by the use of Adcol oil a multitude of motorists have found a practical solution to the problem of smooth running, easier starting and a perfectly free engine."

"Adcol for efficiency," quoted Counsel, and defendants thanked the Court for the valuable advice given, promising to drain off the offending oil and refill with Adcol.

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 post card addressed to Messrs. Alexander Duckham & Co., Ltd., 6, Broad Street Place, London, E.C.2.

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

Dorener, hon. secretary of the Yorkshire Centre, for the best performance by a lady, were awarded to Miss Milne, and the following qualified for first-class awards and silver cups:—J. Thackray (Rover), S. Payne (Morris Oxford), H. C. Hobson (Rover), H. W. Sellers (Essex), F. Baston (Austin), Miss Milne (Austin), T. Harwood (Riley), Miss D. Wilson (Morris-Cowley), P. Mayne (Austin), Miss Roper (A.C.), Miss V. Worsley (Salmon) and H. Cooper (Rhode).

OXTON M.C.

The annual Hassall Challenge Cup Trial will start from Two Mills Garage, Welsh Cross Roads, Oxtun on Saturday, May 7th, at 5 p.m., and will finish at a point near Queensferry. The event will be a closed one, and an 80-mile course in North Wales will include some new hills found by the hon. secretary, Mr. Raymond Ouchie, to whom entries should be sent at 12, Shrewsbury Road, Oxtun.

LANGFORD AND D. L.C.C.

The season will be opened with a social run to Lymouth on May 8th, and entries will be welcomed from members and non-members owning cars and cyclecars not exceeding 2,000 c.c. The start will be from the Railway Hotel, Winscombe, and a prize will be awarded to the driver who runs closest to a secret scheduled time. In order to facilitate arrangements, intending participants are asked to get into touch with the hon. secretary of the club, Mr. R. (C. C.) Schwalm, 5, Grange Road, Clifton, as early as possible.

WOOD GREEN AND D. M.C.

The May fixtures include a run to Great Baddow, starting at 10 a.m. on May 8th, a night run to Weston-super-Mare on May 14th and 15th, starting at 11.50 p.m., a run to Muburst, starting at 10 a.m. on the 22nd, and on the 29th the "Booth Cup" trial. Recently no fewer than 20 members of the club entered the Exham-Honiton-Exham trial, which started from Exham and finished at the same place on the following day.

FORTHCOMING EVENTS.

May 7.

Southport M.C. Race Meeting.
Essex M.C. Brooklands Six Hours' Endurance Race.
Oxtun M.C. Hassall Challenge Cup Trial.

May 8.

Austin Seven C.C. Run to Derby Dale.
Morgan Club. Country Run.
Leeds M.C. Golden Trial.
Belsize-Bradshaw L.C.C. Run to Irvinghoe.
Wood Green and D. M.C. Run to Great Baddow.
Taunton M.C. Run to Porlock.
Langford and D. L.C.C. Run to Lymouth.

May 12.

Bristol M.C. and L.C.C. Sidmouth (24 hours) Trial.

May 13.

Ealing and D. M.C.C. London-Holyhead Trial Starts.

May 14.

Brighton and Hove M.C. Speed Trials at Lowes.
Lancashire A.C. Reliability Trial.
Liverpool M.C. Races on Wallasey Sands.
Austin Seven C.C. Run to Austin Motor Co's Works.
Sutton Coldfield and N. Birmingham A.C. and Ace M.C. Speed Trials.
Wood Green and D. M.C. Run to Weston-super-Mare.
Second Huddersfield and D. M.C.C. Freak Hill-climb at Dalton Bank.

May 15.

Sheffield M.C. Cup Trial.
Woodford and D. M.C.C. Half-day Trial.

BELSIZE-BRADSHAW L.C.C.

The next meeting will be a social run to Irvinghoe Beacon on May 8th, starting from the White Stone Pond, Hampstead Heath, at 2.45 p.m. This run is in place of the trial previously arranged and cancelled.

CARSHALTON M.C.C.

The Carshalton-Malvern-Carshalton Trial will be held this year on May 21st and 22nd and is open to motorcycles, sidecars and three-wheeled cyclecars. The course is approximately 270 miles in length, and competitors will start from the Greyhound Hotel, Carshalton, at mid-night, and will then proceed to Dorchester and on to Malvern, where breakfast will be taken. Lunch will be served at Moreton-in-the-Marsh. At the Redesdale Arms Hotel, Applications for prospectuses and all inquiries should be addressed to Mr. F. L. Dodridge, Thelma, Grosvenor Avenue, Wallington.

ULSTER AUTOMOBILE S.C.

The opening meeting of the season was held at Magilligan Strand, County Derry, on Saturday last, when some fine racing was witnessed on an even course. The light cars had several classes to themselves, but they also did well in the acceleration and brake test and the handicap events, which were open to cars of unlimited capacity. Results:—

Standing mile. Touring cars. 1,100 c.c. class.—1. G. C. Strachan (Gwynne); 2. M. J. McCoull (Gwynne). 1,500 c.c. class.—1. C. Wilkinson (Rhode); 2. M. J. McCoull (Gwynne); 3. G. C. Strachan (Gwynne).

Sports cars. 1,100 c.c. class.—1. Harry Ferguson (Austin); 2. Charles Wilkinson (Rhode). 1,500 c.c. class.—1. J. M. Carson (Alvis); 2. A. Berwick (Rhode); 3. C. Wilkinson (Rhode). **Acceleration and brake test.**—2. H. Ferguson (Austin).

Twenty-five-mile handicap. Touring class.—1. M. J. McCoull (Gwynne); 2. G. C. Strachan (Gwynne).

Sports cars.—1. C. A. R. Shillington (Austin); 2. Thos. McMillen (Rhode); 3. G. C. Strachan (Gwynne).

LONDON-LAND'S END TRIAL RESULTS.

FRAZER-NASH.

J. Wallace G.
H. A. P. G.
H. H. V G.
J. Brady G.
E. Paxman B. (SL; SR);
G. T. Johnston-Smith G.

A.C.

E. S. Hutchenne G.
V. A. Bruce G.
P. H. Mannors G.

ALVIS.

C. R. Morrall G.
R. C. Holcroft G.
E. H. Grimsdell G.
S. C. Stanley G.
F. H. M. Grimsdell G.
W. Urquhart-Dykes S. (LSB)
C. L. Jackson S. (SM)
K. H. Daniel S. (SM)
A. J. Berry S. (LF)
A. S. Llewellyn B. (SC; SR)

AMILCAR.

C. L. Clayton G.
R. E. Manifold G.
P. C. Porter G.
S. D. Vos S. (SR)

ARIEL.

H. W. Jones G.

AUSTIN.

W. J. Milton G.
J. Eady G.
E. V. Tomlinson G.
B. W. Harcourt G.
J. C. Orford G.
J. Richardson G.
G. Richardson S. (SR)
R. L. Richardson S. (SR)
C. V. Patrick S. (SR)
G. Baxtor S. (SR)
T. L. Carrington S. (SR)
S. C. H. Davis S. (SR)
J. L. Blackwood Murray S. (SR)
H. Clegg S. (SR)
G. H. Symonds S. (SR)
L. A. Marks S. (LL; SR)
C. G. Pitt S. (SR)
G. H. S. Ellis B. (SR; SM)
W. Boulton B. (SR; SM)
H. E. Symonds B. (SL; SR)
H. S. Barton B. (SL; SR)
G. H. Strong B. (SP; SL; SR)

BAYLISS THOMAS.

W. J. Haward S. (SR)

CLYNO.

R. Franey S. (SR)
S. Gilbert S. (SR)

FIAT.

P. S. Harcopos S. (SR)

H. Jefferis G.
D. Duncan-Smith G.
C. F. Hamilton-Turner G.
Lord Waleran G.
C. H. C. Cornish G.
R. G. C. Schwalm G.
H. J. Aldington G.
E. Hillary G.
E. A. Jaques S. (RSP)

GWYNNE.

C. M. C. Turner S. (SR)

HUMBER.

F. T. Williams S. (SR)

JOWETT.

H. G. Russell G.
H. J. Lovatt G.
E. A. D. Ward G.
O. J. C. Cotton S. (SR)

LEA-FRANCIS.

F. Broomfield G.
H. B. Chantrey G.
H. W. Geidt G.
D. Walker G.
P. C. E. Cleaver S. (LF)
E. T. Evans S. (SR)

MATHIS.

J. C. Anderson G.

MORGAN.

S. Hall G.
H. A. Martin G.
S. A. McCarthy G.
H. W. Holmes G.
E. L. Forge G.
O. F. Stephens G.
J. S. Thurlby S. (RSP)
O. J. Turner S. (SR)
J. J. Saunders S. (SR)
N. G. Cooke B. (SR; LSR; SM; LF)
S. MacMahon B. (SL; SR)
B. B. F. Russell B. (SL; SM)
F. D. Bailey B. (SP; SR)
M. W. Stokes N.A. (RH)
E. J. S. Stafford N.A. (RH)
H. R. Taylor N.A. (RH)

NEWTON-CEIRANO.

C. M. Needham G.
R. M. Dixon G.
G. B. Wieland G.

PALLADIUM.

C. H. Kemp G.
W. E. Castello G.

RILEY.

N. Miller G.
G. F. Smith G.
W. H. Shepherd G.
S. H. Roe G.
W. C. Treloggeu G.
A. F. Spooner G.

G. P. Stevens G.
H. B. Steadman G.
H. H. S. Keogh S. (SH)
E. E. S. Montagu S. (SR)
J. B. Tointon B. (SL; SR; SM)
G. O. Ford N.A. (EH)

ROVER.

D. M. Healey G.
S. J. Clutterbuck S. (SR)

SALMON.

G. H. Martineau G.
J. W. Barber G.
T. R. Berry G.
N. G. Stokes G.
C. L. Simon G.
C. D. Conrad G.
C. B. Moss-Blundell S. (SR)
L. Martineau S. (SR)
H. Higgs S. (SR)
N. A. Carr S. (SR)
R. B. Waters S. (SR)

SENECHAL.

C. Anthony G.
P. D. Clegg S. (SR)

SINGER.

J. H. Gem S. (SR)

SWIFT.

C. F. Hyams S. (SR)
H. D. Roberts B. (RSP; SR)

TROJAN.

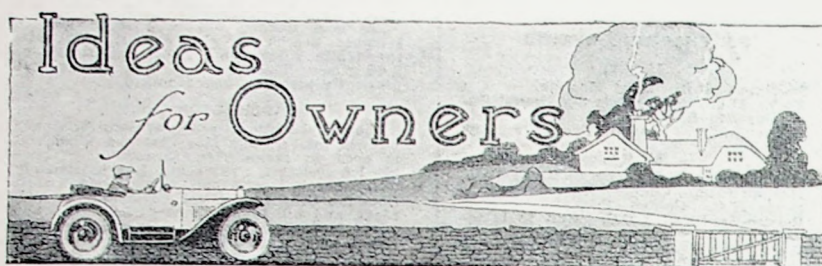
H. J. Rickwood G.
G. D. Hardy G.
B. Monk G.
A. F. Scroggs G.

WINDSOR.

W. R. Reeve S. (SR)

KEY TO ABBREVIATIONS.

G = Gold Medal.
S = Silver Medal.
B = Bronze Medal.
N.A. = No Award.
LF = Late at Finish.
LL = Late at Lymouth.
LSB = Late at Simonsbath.
LT = Late at Taunton.
RSP = Failed in restart on Porlock Hill.
SL = Stopped on Lymouth Hill.
S = Stopped on Blue Hills Mine Hill.
SP = Stopped on Porlock Hill.
SR = Stopped on Beggar's Roost.
EL = Early at Lymouth.
EH = Early at Hungerford.
EP = Early at Porlock.
ISP = Improperly seated on Porlock Hill.
ISR = Improperly seated on Beggar's Roost.
CT = Replaced in control at Taunton.
N = Noisy.



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.

Scraping Piston Ring Grooves.

Carbon is often very difficult to remove from piston-ring grooves if a suitable tool is not to hand. An easily-made instrument for this purpose can be found in a piece of umbrella rib. One end should be filed on the convex side until the point is quite sharp. Then, by hammering or squeezing in a vice, the prepared end should be made V-shaped. This tool will be found very effective, for it will remove all carbon from the angles of the grooves.

Fitting "Surplus" Plugs.

In many stores Lodge Aero and other Government surplus sparking plugs are obtainable at a fraction of their original cost. If they are found to be suitable for any particular make of engine, their performance can often be improved by fitting two or three copper and asbestos washers or a short distance piece cut from a length of metal tubing of the appropriate diameter. This shortens the "reach" of the plug into the combustion chamber and reduces the likelihood of oiling up.

A Decarbonizing Hint.

Removing carbon from the cylinder head of a side-valve engine not fitted with a detachable head is apt to be a tiring task. It may be greatly simplified, however, by using a strong steel bristle brush, which can be obtained from most accessory houses and many ironmongers. If the handle is modified to fit the chuck of a breast drill, a few turns with the brush against the cylinder head will remove effectively all trace of carbon. Besides being much quicker, this method has the advantage of leaving a smooth, polished surface.

Repairing a Bucket.

Of all the equipment included in a privately owned garage, perhaps the bucket comes in for the hardest treatment. Often it has been dropped, kicked, and even employed as a temporary jack; it is not surprising that the bottom sooner or later develops a leak. Soldering a thick galvanized iron sheet is not an easy matter and plugging the holes is unsatisfactory. The best plan is to spread a thin layer of Portland cement over the bottom and when once it has properly "set" it will effectively seal a comparatively large hole. Small lumps of cement may also be used to patch weak points in the sides of a bucket.

B46

A Novel Horn Position.

On some small cars there is insufficient space to fit a bulb horn in the usual position, but it can be fixed under the floorboards with the bulb projecting up through a hole. This position will be found quite satisfactory.

Overhauling the Magneto.

Usually, it is advisable to leave magneto overhauls to an expert, but if, in an emergency, an amateur owner has to dismantle the instrument himself, it is essential to remember to place a piece of iron across the magnet poles before withdrawing the armature. If this procedure is neglected the magnets may be seriously weakened, and may even need remagnetizing if they are left for a long period without a keeper. It is always advisable to treat the magnets carefully, for shocks and vibrations weaken their magnetism; also, when the keeper is moved, it should always be slid off the poles and not taken off sharply. When replacing the magnets, care should be taken to put them in the positions they originally occupied.



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.

J.J. (Bideford).—Do not fit a heavier gauge of fuse wire to overcome the constant blowing of fuses. Find the cause of the trouble and rectify it; your fuses will then have a normal length of life.

C.M.P. (Manchester).—Water coming out of the exhaust pipe is nothing which need alarm you. It is a result of the process of combustion, and usually occurs only when the engine is cold.

E.S.L. (Waterford).—Try examining the clip which holds the ignition leads of your Rover Nine to the rear of the cylinder block. As they are packed together rather tightly at this point the insulation may have perished, causing a short circuit.

G.H.R. (Glasgow).—There is little risk of overfilling the rear axle of your Austin Seven, as any excess lubricant would escape through the vent hole in the casing, and thus could not reach the brakes even if the felt washers were in poor condition.

The Tell-tale Accumulator.

When purchasing a second-hand car a good idea of its general condition can often be obtained from a glance at the accumulator. If the compound, which seals the top, is found to be lifting near the edge of one end it is evident that the positive plates are buckled and probably rotten. In any case it will very soon need attention. The average life of a battery is about three years, but should the symptoms of buckling appear prematurely it frequently denotes that excessive use has been made of the electric starter.

Fitting New Covers.

Nearly every owner-driver who does most of the work on his car himself has experienced difficulty in mounting a new high-pressure tyre on to a rim when he has no assistant handy. The task is more easily performed if the wheel is removed and laid on a flat surface, such as the garage floor or a table. After placing in position the tube and cover with the valve stem through the hole in the rim, it is a good plan to tie the opposite side of the cover and the rim together with a length of cord to prevent this part from springing up. Then, using three tyre levers work round from each side of the valve until two-thirds of the beading is in place. The difficulty now is to prevent the lever on one side from flying over while operating the other two. To obviate this, screw a strong hook into the bench or floor, if the latter is of wood, and anchor down the lever securely with a loop of strong cord.

H.C.E.E. (Torquay).—The cause of a rear wheel wobbling when the wheel itself is perfectly true is usually due to a bent axle shaft.

D.N.A. (Hereford).—The quickest way to clean a badly choked oil-filter gauze is to boil it in a solution of caustic soda, afterwards rinsing it thoroughly in running water and wiping it dry to prevent rust.

F.O.N. (Rochester).—Oil leaking from the worm housing on the rear axle of your Rover Nine is not an indication of a worn bearing, but that the packing gland at the forward end, which is now probably hidden by mud and surplus oil, needs tightening.

M.R. (Brightlingsea).—The need which you mention has been met in the design of the Trojan, in which the ignition switch is coupled to the petrol tap, so that the operation of one lever cuts off the supply of fuel and switches off the ignition.

E.M.S. (London, N.17).—There is a plug provided in the water manifold over No. 1 cylinder of your 8.3 h.p. Renault, which will enable you to pass a wire down into the piston when retiming the magneto. This obviates the necessity for removing the cylinder head.

12/22 h.p. Lea-Francis 4-seater with
absolutely complete equipment £285

G Y P

IT 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 to 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 willing to be a Lea-Francis owner, for the disappointment of going back to another car would hurt like the very deuce.

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A.C.	1921, 10 h.p. 2-seater. Lighting. Starter. All-weather, etc.	£56-10
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SINGER	1924, 10 h.p. 2-seater. Lighting. Starter, etc.	£75-0
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CITROEN	1925, 7 h.p. Cloverleaf. Fully equipped	£75-0
JOWETT	Late 1925, 4-seater. Fully equipped. Excellent order	£89-10
CITROEN	1926, 11.4 h.p. 3-seater. Small mileage. Excellent.	£102-10
CLYNO	1926, 11 h.p. 2-seater. F.W.B. Lighting. Starter. Repainted	£112-10
SALMSON	Late 1926, 10 h.p. 4-seater. F.W.B. Fully equipped	£114-0
CITROEN	1926, 11.4 h.p. English body 4-seater. Excellent order. Tax paid	£115-0
SINGER	1926, 10/26 h.p. 4-seater. All-weather. Starter. Excellent	£145-0
SINGER	1925, 10/26 h.p. Saloon. Fully equipped. Splendid order	£147-10
HUMBER	1926, 9/20 h.p. 4-seater. Full equipment. Excellent order	£182-10
ROVER	1927, 9/20 h.p. 2-seater semi-sports. Used for demonstrations only. Unregistered	£237-10
HUMBER	1927, 9/20 h.p. 4-seater. Used for few demonstrations. Unscratched. Unregistered	£225-0

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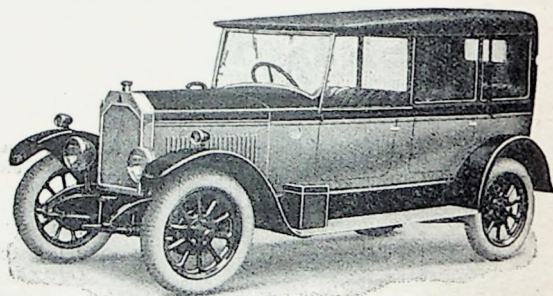
AROUND THE TRADE.

The address of Messrs. Marble Arch Motor Supplies, whose wickless stove we described in last week's issue, is 135, Edgware Road, London, W.2. This concern carries a very large stock of inexpensive accessories, tools and special job lines.

Mr. Oswald Hayes has recently resigned his position with Cox Carburettors, Ltd., Birmingham, and joined the staff of Solex, Ltd., Marylebone Road, London. Mr. Hayes's work will be largely in the Midlands in a technical and business capacity.

Postans and Morley Bros., Ltd., Trevor Street Works, Birmingham, have just issued a useful little booklet on car painting with celluloid brushing lacquers; it deals fully with the subject from the point of view of the amateur painter. It is priced at 3d.

A recent innovation of Shell-Mex, Ltd., is the provision of Shell oil drum shelters, which are placed out of doors in order to give motorcyclists and light car owners the advantage of being able to buy their oil in any convenient quantity at bulk prices. It is claimed that this service does for the light car owner what the Shell cabinet has done for the motorist who buys oil in rather larger quantities.

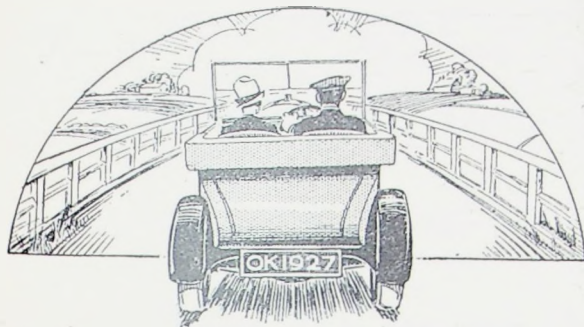


A four-seater Swift finished in an attractive two-colour scheme referred to in an accompanying paragraph.

Dunhills, Ltd., 359-361, Euston Road, London, N.W.1, are to be congratulated upon their latest publications, the 1927 general catalogue and the new catalogue of ladies' fashions for sport and motoring. The general catalogue is entitled "Everything for the Motorist," and it is one of the most complete volumes of its kind that we have seen. The ladies' catalogue is a neat little folder containing about a dozen fashion plates.

We have received from Messrs. Ettore Bugatti Automobiles, 1 and 3, Brixton Road, London, S.W.9, a copy of a booklet issued by the French works and setting out Bugatti successes in races and competitions during 1926. These comprise 351 first places, 47 records, a championship of the world and altogether 501 successes when second, third and fourth places are included where the first place was also secured by a Bugatti.

We learn that Messrs. Newnham Motor Co., 237-245, Hammersmith Road, London, W.6, are making a particular feature of Swift cars in special two-colour finishes, and an accompanying illustration shows a four-seater model finished in this manner. The colours being concentrated upon at present are red and black and primrose and black. The extra price for the two-colour finish is £5, making the price for the two or four-seater £215 against £210 for the standard models. Messrs. Newnham state that they have a full range of Swift cars in all the standard colours and are prepared to accept second-hand cars in part payment and to supply on deferred payments in the usual way.



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1927 13 h.p., SINGER SENIOR, 4-seater, as new	£205
1926 7 5 h.p., CITROEN, Cloverleaf. Perfect condition	£100
1926 AMILCAR, "Grand Sports," 2-seater	£175
1925 AUSTIN 7, overhauled and repainted throughout	£100
1925 RHODE, 2-seater, overhauled and repainted.	£130
1926/7 PEUGEOT Cabriolet, as new	£130

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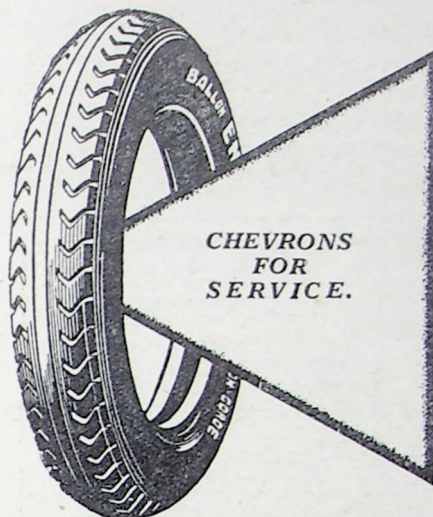
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Yours faithfully,
(Signed) C. G. PULLIN.

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

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The lowest figure compatible with integrity of construction throughout.

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

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The front wheel brakes are of the
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Pages from the Diary of an Austin Owner



Page Fourteen

"Well," said I, when my fellow members at the Club had argued themselves to a momentary standstill, "it just happens that I've been keeping a pretty accurate record of speeds, mileage, consumption and cost over the past eighteen months. I cover approximately 1,000 miles every month; I drive in every sort of weather; I can maintain an average of 34 m.p.h. in any 100-mile run; I can do a comfy 55 on the flat; I've never once been 'let down,' and my running costs come to scarcely a-penny-a-mile. I know of only two other men who can claim equally happy experience—but the number will be increased to three just so soon as one of you chaps becomes, like me, an owner of an Austin Seven."

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**Austin
Seven**

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Saloon Model £165

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