

SPECIAL OFFER

REDUCED PRICES

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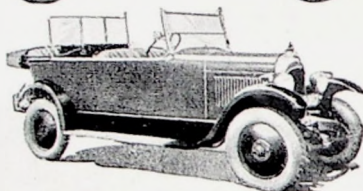
7 NEW CARS

11'4 h.p. Citroen Coupe,
f.w.b., seat three inside,
leather upholstery, dark
blue, makers' standard
equipment.



11'4 h.p. Citroen Coupe.
Net Cash Price .. £210 0 0
12 payments of .. £18 10 0
18 " " .. £13 0 0

11'4 h.p. Citroen Tourer,
f.w.b., all-steel body, four
doors, rear screen, colour
fawn, makers' standard
equipment.



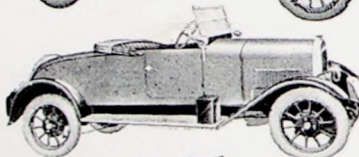
11'4 h.p. Citroen Tourer.
Net Cash Price .. £155 0 0
12 payments of .. £13 10 0
18 " " .. £10 0 0

10'30 h.p. Rhode De Luxe
4-seater, f.w.b., leather up-
holstery, colour maroon,
windscreen wiper, mirror,
clock, etc., as per makers'
standard specification.



10'30 h.p. Rhode De Luxe
4-seater.
Net Cash Price .. £195 0 0
12 payments of .. £16 16 0
18 " " .. £12 10 0

10'30 h.p. Rhode 2-seater,
f.w.b., two doors, colour
blue or maroon, roomy
dickey, makers' standard
equipment.



10'30 h.p. Rhode 2-seater.
Net Cash Price .. £185 0 0
12 payments of .. £16 0 0
18 " " .. £11 16 0

10'30 h.p. Rhode 4-seater,
f.w.b., four doors, colour
blue or maroon, roomy rear
seat, makers' standard
equipment.



10'30 h.p. Rhode 4-seater.
Net Cash Price .. £185 0 0
12 payments of .. £16 0 0
18 " " .. £11 16 0

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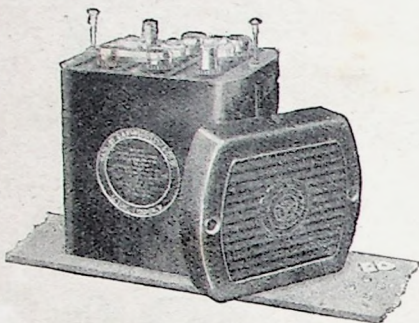
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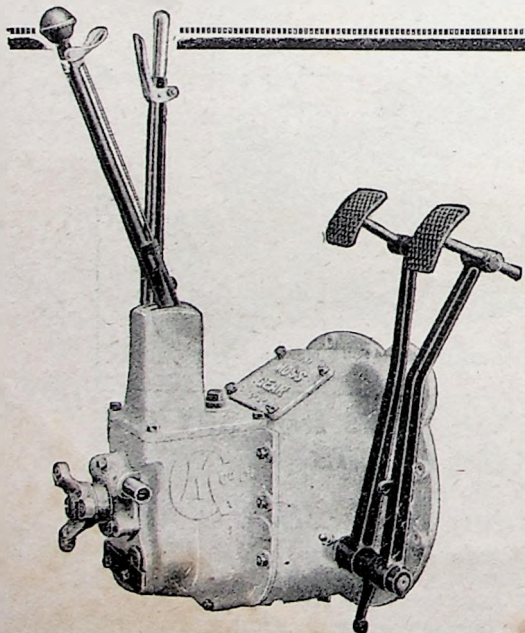
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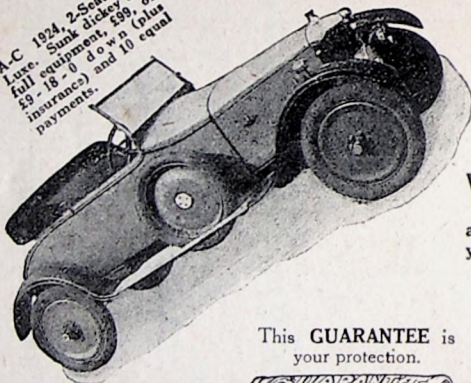
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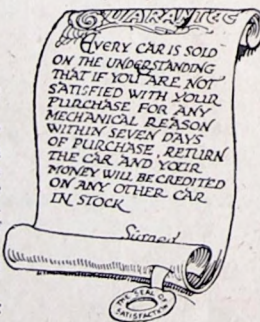
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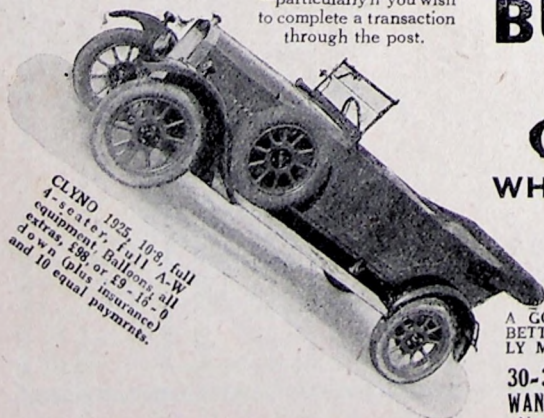
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A-C, 1924, Sovereign 2-seater ..	£96
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CALCOTT, 1924, 10'4 de Luxe 2-seater ..	£78
CLYNO, 1925, 2-seater ..	£88
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FIAT, 10'15 1923, English 2-seater ..	£85
HILLMAN, 1922/3, 10'8 de Luxe 2-seater, sunk dickey ..	£78
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JOWETT 7, 1923, 2-seater de Luxe ..	£65
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LEA-FRANCIS, 1924, 9'6 de Luxe 2-seater, sunk dickey ..	£95
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STANDARD, 1924, 11'4 Canley 2-seater ..	£85
STANDARD, 1923, 9'6 2-seater ..	£88
SALMON, 1925, sports, 9'6 ..	£95

SALMON, 1923, English 2-seater ..	£65
SALMON, 1922, English 2-seater ..	£55
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FOUR-SEATERS.

A-C, 1924, Royal 4-seater ..	£99
A-C, 1921/2, 4-seater, fullest equipment ..	£55
AUSTIN 7, 1925, Chummy ..	£55
CITROEN, 1925, 3-door Saloon ..	£99
CITROEN, 1925, English 4-seater ..	£88
CALCOTT, 1924, 10'4, 4-seater ..	£75
CLYNO, 1925 de Luxe 4-seater ..	£95
FIAT, 10'15, 1922, 4-seater ..	£78
GWYNNE 8, 1923/4 Chummy ..	£78
HILLMAN, 1924, all-weather, 4-seater ..	£95
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ROVER 8, 1924, de Luxe 4-seater ..	£68
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SALMON, 1924, 9½ h.p., 2-Seater ..	£65
AUSTIN, 1925, 7 h.p., 2½-Seater ..	£92
CITROEN, 1924, 10 h.p., Coupe ..	£86
F.I.A.T., 1920/1, 2-Seater ..	£86
AERO MORGAN, 1927, F.W.B. ..	£115

Full list gladly sent upon application.

HOURS OF BUSINESS —
Saturdays 9 a.m. to 1 p.m. All other days 9 a.m. to 7 p.m.

H. TAYLOR & Co., Ltd.

49, 50, 52 & 53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.7.
Phone: Kensington 8558/9 and 8540. Grams: "Dynametro, Southkens."

Automatic Ignition Timing

Sweeter running, easier gear changing, petrol and oil economy are all assured by fitting the B.T.H. Automatic Ignition Timing Device in the magneto drive—it may be fitted to any type of magneto, fixed or variable ignition—and automatically ensuring the correct ignition timing according to the engine speed.

This extremely simple device is made in two types, one of which is incorporated in one form of the B.T.H. Polar Inductor Magneto and the other as a separate unit.

Further particulars will be sent on request.




Automatic Ignition Timing Device

The
British Thomson-Houston
Company, Limited,
ELECTRICAL ENGINEERS AND MANUFACTURERS,
Alma Street, Coventry.

Works: Rugby. Birmingham. Willenden. Coventry. Chesterfield.

4 Firsts on



DON

INTERNATIONAL GRAND PRIX OF EUROPE

At Neurberg Don was fitted by:—

First 175 c.c. class. Henkelman. D.W.K.

First 250 c.c. class. Ashby. O.K. Supreme.

First 500 c.c. class. Walker. Sunbeam.
(this driver was fastest in all classes)

First 750 c.c. class. Stelzer. B.M.W.

Don is the sure Brake Lining that will never burn, glaze, crack or slip. It just wears and wears—like granite.

DON—the safe lining for speeding or touring

SMALL & PARKES, Ltd., Hendham Vale Works, MANCHESTER

LONDON DEPOT:
71, Southwark St., S.E.1.
DUBLIN:
2, Leinster St. (Nassau St.).

LEEDS:
4, Brunswick Street.
BIRMINGHAM:
66, Steelhouse Lane.

BRISTOL:
153, Holwell Road.
GLASGOW:
8, Dixon Street.

LIVERPOOL:
73-74, Regent Road.
BELFAST:
7, Corporation Street.

CARDIFF:
Hope Street Lane.
SWANSEA:
33, St. Helen's Road.

NEWCASTLE-ON-TYNE:
30, Prudhoe Street.
SOUTHAMPTON:
63, Stafford Road.

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.

"CHEMICO"



Car Polish

With the continued increase in Motor Car production there is also a continued increase in the variety of Car Polishes.

"CHEMICO" CAR POLISH led the way and will hold that lead; during the twenty years of its progressive sales, not one single complaint has been made against it. "Chemico" Car Polish does not contain wax. It is wrong to cover the varnish of a car with successive coats of wax to produce a polish.

"Chemico" Car Polish contains **NO** abrasive. We do not believe in scratching the varnish to produce a polish.

But "Chemico" Car Polish is the speediest polish. It is the cheapest polish—a 2/- bottle will clean and polish a car 30 times. It gives a brilliant and lasting polish and it does preserve the varnish.

"Chemico" Car Polish is sold by all good Motor Garages throughout the Kingdom.

If unable to obtain, please advise us.

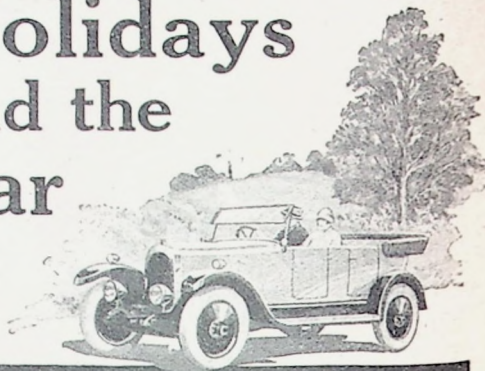
For Cellulose Finishes

For all Cellulose painted cars we have produced a Cleanser and Wax Polish which are unbeatable.

Samples are obtainable at 6d. each, post free.

THE COUNTY CHEMICAL Co. Ltd.
Chemico Works - - BIRMINGHAM.

Holidays and the Car



COMFORT ON THE ROAD



By keeping the springs automatically well oiled and clean, free from mud, dust and rust—Jeavons ensure perfect spring action and riding comfort on the worst roads.

Sets complete with one hand oil gun from 35/-

PROTECTION FROM CHILLY WEATHER

FABRAM MOTOR RUGS

Fringed, reversible, cosy rugs, all wool, in a great many beautiful designs and rich colourings. Wonderful value. Satisfaction or money returned. Size 58 x 72 ins. - 22/6
Better qualities at - - 42/6 and 88/-

ARM CHAIR COMFORT IN THE CAR

FABRAM MOTOR CUSHIONS

DRIVER'S CUSHION specially shaped to bring driver near to controls. Size 17 x 17 x 4 1/2 ins. In coloured waterproof leather - 8/6
As above but in black leathercloth, piped and buttoned - 6/8
Special quality in Blue Rexine or in Black - 8/6
MOTOR CUSHIONS in coloured waterproof leather with leather carrying handle. 6/8
Special sizes at a slight extra cost.

WHEN ROADSIDE REPAIRS ARE NECESSARY

RAMSO DUST COATS

Smart, well made coats, suitable for Car or Garage use. Prevent clothes getting messed up.
In all the usual stock sizes, from - 10/6

PROTECT THE SPARE WHEEL

FABRAM WHEEL WRAPS

Made from the best quality Black leathercloth, impervious to heat or cold and will not crack or peel. Six different models to suit various types of wheel. Prices from 12/-

WHEN YOU GARAGE THE CAR

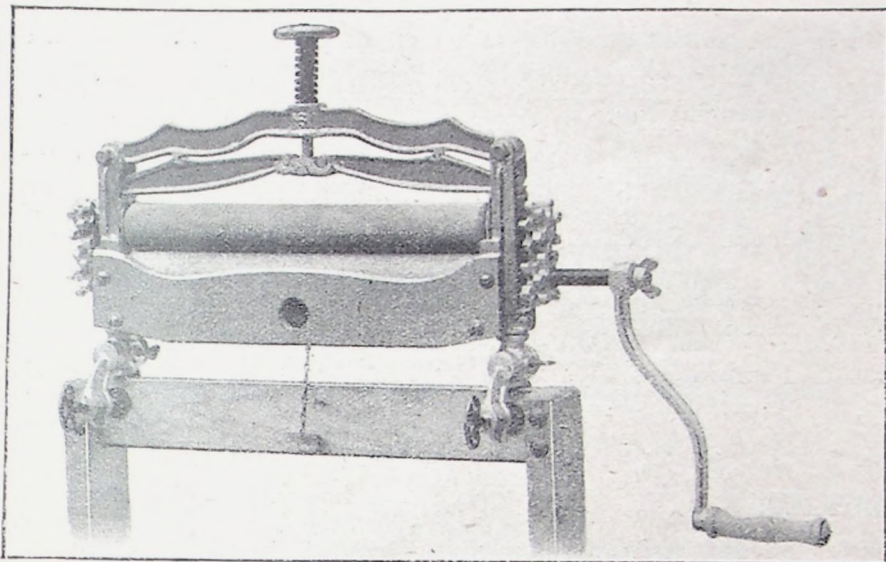
FABRAM DUST SHEETS

Made from special close weave fabric of fine quality which dust cannot penetrate. Far higher in quality than those usually offered for the purpose. Size 15 x 12 ft.
In White - 35/6 In Blue - 42/-
Other sizes at proportionate cost.

If your Garage cannot supply you send direct (cash with order).
Write to Dept. L for New Summer Catalogue of Accessories.

RAMSDENS (HALIFAX) LIMITED
STATION WORKS - HALIFAX - ENGLAND.
London Office and Service Depot: 147/9, GT. PORTLAND STREET, W.1.

"The (W)Ringer."



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

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

A few of its good points:—

It makes bad roads—good roads.

Any road with any load.

First in 1906, still at the top.

Provides the cheapest form of motoring.

The cheapest to buy, the cheapest to run

"The little engine with the big pull."

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

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

Dunlop Balloons and Stewart Speedometers standard.

JOWETT CARS LTD., IDLE, BRADFORD

SENECHAL

A SPORTS MODEL FOR EVERY POCKET

In addition to our existing sports models at **£215** and **£295** we have now standardised a popular model at **£185**, specification as follows:

ENGINE: Four cylinder water-cooled o.h.v., actuated by adjustable push rods, oil circulation by mechanical pump; Solex carburettor; high tension magneto with Vernier adjustment; bore 57 mm.; stroke 100. Total capacity 972 c.c. 8 h.p. Tax £8 0 0.

GEARBOX: This is in one unit with the engine, giving three forward gears and reverse. Gear ratio: 1st, 13 to 1; 2nd, 8 to 1; top, 4.5 to 1.

CLUTCH: Inverted cone, fabric lined.

REAR AXLE: Straight cut bevel.

UNIVERSAL JOINTS: Hardy flexible coupling, one at each end of the propeller shaft.

BRAKES: Foot brake on all four wheels. Independent hand brake on transmission. Quick and easy adjustment to all brakes.

STEERING: Special design, ratio 3 to 1.

SPRINGING: Front, transverse with double radius rods; rear, double quarter elliptic. Owing to special design of rear suspension no strain is imposed either on the flexible joints or spring anchorages. Hartford shock absorbers are standard fitment.

WHEELS: Five detachable, 700 x 80; Englebert 700 x 90 tyres.

CHASSIS DIMENSIONS: Wheelbase 8 ft. 2 in., track 3 ft. 6 in. Body Dimensions, overall length, 12 ft. 3 in., overall width, 4 ft. 2 in. **WEIGHT:** 10½ cwt.

BODY: Two-seater Sports of very attractive appearance. The tail is streamlined and hollow, so that luggage can be carried in it. Pedals adjustable for length. Standard colours: Light Blue and Red. Any other colour, to choice, £5 extra.

EQUIPMENT: Self-starter, 12-volt lighting set (5 lamps), clock, speedometer, hood, tools, pump, jack, Englebert tyres 700 x 90 (cord), four-wheel brakes.

PRICE: £185. Two-seater body.

Delivery London Showrooms.

7 0 M. P. H.

EXCHANGES.

A. S. C.

DEFERRED PAYMENTS.

THE AUTOMOBILE SERVICE COMPANY, LIMITED,

166, GREAT PORTLAND STREET, LONDON, W.1.

TELEPHONE—
MUSEUM 4626.

£185

FULL
EQUIPMENT.

£185

FOUR-WHEEL
BRAKES.

There is a great difference
NOW



First
English
Daimler
1896.

In the thirty or so years which have passed since motor cars were objects of curiosity the tremendous development of the automobile has been accompanied by similar progress in the manufacture of Ferodo Brake Linings. Higher speeds and heavier loads have necessitated greater braking power; this has been more than met by the increased efficiency of Ferodo Brake Linings.



The Linings that make motoring SAFE.
Stocked by all GARAGES.

FERODO LTD., - - CHAPEL-EN-LE-FRITH.

Depots and Agencies—
London, Liverpool, Birmingham, Leeds, Glasgow, Manchester, Belfast, Brighton,
Bristol, Cardiff, Coventry, Carlisle, Newcastle-on-Tyne, Aberdeen. A176.

REGISTERED

TRADE MARK.



The Perfect Upper Cylinder Lubricant.

PUT IT IN YOUR FUEL.

4 oz. Tin. 1/- Postage 2d. extra.
Flat oval shape for tool bag.
8 oz. Tin 1/9 Postage 3d. extra.
16 oz. " 3/3 Postage Free.
32 oz. " 6/- Postage Free.
A 32 oz. Tin treats 64 gallons of fuel.

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

Write for Explanatory Book.



MISS VIOLETTE CORDERY.
USING MIXTROL IN HER FUEL

See what SHE says about it:—

The Mixtrol Oil Company, 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.

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

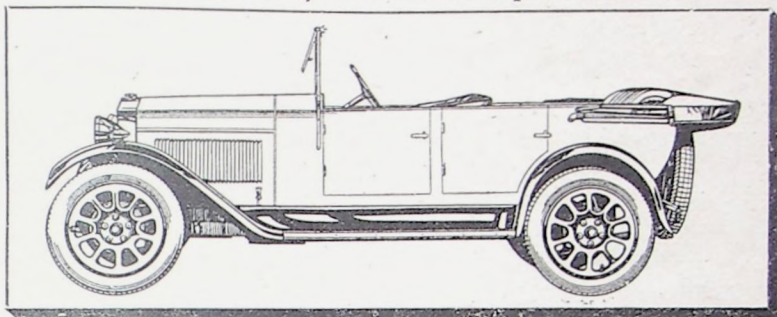
Telephone: Museum 4044.

Telegrams: "Olmixtrol, Wendo."

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

FIAT

The Car of International Reputation.



You will be astonished
at the lightning acceleration of the
9 h.p. Touring Model
—delighted with the manner it
transforms mountains into mole
hills—surprised that such a fine
example of FIAT unrivalled
engineering practice is at your
command for **£200.**

*De Luxe Coachwork: Seats and Squabs upholstered in real
leather: Cellulose finish: Four Wheel Brakes: Tax £8:
Gradual Payments Arranged.*

A FULL-SIZE FOUR SEATER.

Warning. With every Fiat Car a full guarantee is issued by this company. Every purchaser should obtain this guarantee and see that it bears the chassis and engine numbers of the machine purchased. The public is warned not to purchase a car without this guarantee.

Range: 9h.p. 12h.p.
From **£195.**

*Registered Offices and Showrooms
43-44, Albemarle Street,
London, W.1.
Phone: Gerrard 7946 (4 lines)
Wires: 'Fiatism, Piccy, London'
For everything pertaining to
spares, service, etc., communi-
cate direct with the Works,
Wembley, Middlesex.
FIAT (England) LTD.*

FIAT

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

Special Features of this week's issue

The Motor

Tues., July 19th.

* NEXT WEEK!

A CAMPING HOLIDAY.
Dorset and Somerset Toured
with a Car and Caravan.

A TALE OF TWO SPEEDO-
METERS.

CARE AND MAINTENANCE
OF THE 12-24 H.P. CITROEN.

SOME NOVEL AMERICAN
"NOTIONS."

A CHASSIS DESIGNED FOR ACCESSIBILITY.
How the Main Components Could be Mounted to make them
Readily Get-at-able.

CARS WHICH SQUEAK AND RATTLE.
Causes of and Cures for Various Irritating Noises in Chassis
and Bodywork.

BY-WAYS TO THE SCOTTISH BORDER.
By the Inland Hills and Dales of Northumbria.

A CLEVERLY DESIGNED FUEL GAUGE.
Accurate Instrument which gives Dash Readings in Gallons.

A MODIFIED 13-35 H.P. PEUGEOT.

EVE FINDS HER WAY.
Why is Signposting in England a Haphazard Affair?
By the Hon. Mrs. Victor Bruce.

**A WIPER WHICH CLEANS FULL WIDTH
OF SCREEN.**

**ROAD TESTS, SHOWING PRINCIPAL
CHARACTERISTICS.**
The 21 h.p. Renault Tourer.

A FLEXIBLE STEERING WHEEL.
Lessening Driving Fatigue and the Danger of Accident.

MOTOR INSURANCE LAW.
Solicitors and their Duty to Insured Motorists.

RUMOURS ABOUT NEW FORD CARS.

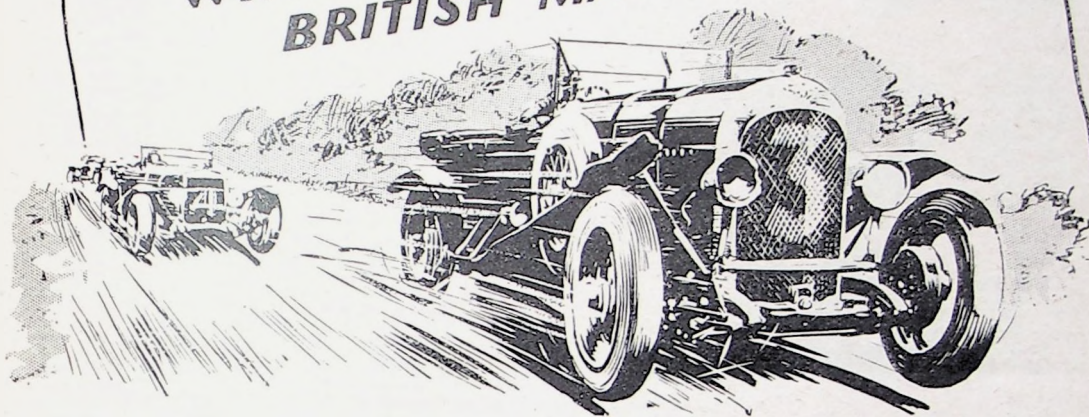
FINE RACING AT BROOKLANDS.
Five Records Broken.

**EVERY
TUESDAY
4^p.**

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

MAGNETO IGNITION TRIUMPHS

LE MANS 24 HOUR RACE
WINNER (BENTLEY) USES
BRITISH MAGNETOS



MMAGNETO ignition won another tribute at Le Mans in the 24 hour race. The winning Bentley, driven by Dr. Benjafield and S. C. H. Davis, covered 1472 miles and averaged over 61 m.p.h. Dual British Magnetos were used.

The continual success of magnetos in all major tests and the fact that they are fitted to over 95% of the cars made in this country emphasise this important truth—*Magneto ignition is the best.*

Magneto ignition is the only independent self-contained ignition system. It is the only system not affected by accumulator trouble, nor involving elaborate service facilities. It is foolproof. It requires no electrical knowledge on the part of car owners.

It is self-contained, independent and practically everlasting. Like the British car, it is built right in the first place, so as to need little attention afterwards.

BRITISH MAGNETOS

BUY A BRITISH CAR WITH A BRITISH MAGNETO

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

TAKING THE "S" OUT OF "SOIL"



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

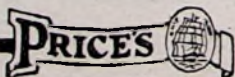
To learn why, send a p.c. for the book "The Car" (or if you're a motor-cyclist, "The Motor Cycle"). Both are free and post free from Price's, the Oil People (Dept. EE15), London, S.W.11.

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

MOTORINE

very special oil

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



Chekko

Brake and Clutch Linings

Have you got it?

Have you got that enviable confidence in your brakes that you can sit back at the wheel and really enjoy your motoring, free from worry in all hazardous situations, in busy or awkward traffic, at cross-roads, and on steep hills?

Thousands of motorists have this confidence, which is engendered by the use of Chekko—the **only** Brake Lining that is guaranteed never to fail through weakness caused by scorching or burn-out. No cotton or anything inflammable is mixed with the asbestos used in Chekko—hence the guarantee.

For your own safety—and as Chekko lasts longest—for your own pocket also—**insist** on Chekko, from your garage, from any of your stockists, or direct from—

CRESSWELL'S ASBESTOS CO., LTD.

WELLINGTON MILLS, BRADFORD.
Phone: 950 Bradford. Grams: CHERKO, Bradford.

London Stores: 27, Percy Street, Tottenham Court Road, W.1.
Birmingham Address: Empire House, Great Charles Street.
Manchester Stockists: Manchester Machinists Co., Ltd., 30, Queen Street, Deansgate. Phone: 3820 Central.
Liverpool Stockists: Leo Swain & Co., Ltd., 10, Colquhoun Street.
Stockist for Scotland: Andrew R. Findlay, 17, Robertson Street, Glasgow.
Stockists for Ireland: E. W. Gwynne & Co., 18, Cromac Street, Belfast.

ELEPHANT SERVICE

Always insist on ELEPHANT replacements.

PARTS IN STOCK FOR

A-C, AUTOCAT, CALTHORPE, CALCOTT, CASTLE 3, ENFIELD, ERIC CAMPBELL, HAMMOND, HORSTMAN, LAGONDA, MARSEAL, MERCURY, METEORITE, SINGER, STELLITE, SWIFT, WARREN-LAMBERT, DUPLEX, LITTLE GREG, etc., etc.

WE ARE ACTUAL MANUFACTURERS.

BELSIZE-BRADSHAW SERVICE

Sole Makers of all parts for these cars. Send for Instruction and Improvement Book - 2/6

DEEMSTER SERVICE

All parts for all models with improvements at lower prices than Deemster official prices.

WORM WHEEL SERVICE

All makes from stock in special Phosphor-Bronze. Special Worm Wheels made in three days.

Gear Cutters, Machinists, Founders & Engineers.

Elephant Motors Ltd.

ELEPHANT HOUSE,

97-101, Newington Causeway, London, S.E.1.

Phone—Hop 7076-7-8.

Grams—"Multimart, Sedist, London."

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.

We Quite Realise

that everyone does not necessarily demand 60 m.p.h. from a car, and it is not only because the SALMSON Sports Skiff is easily capable of that speed that we say it is the car for the Sportsman. Combine with that "mile a minute," acceleration that is almost incredible in so small an engine, reliability, comfort and attractive lines—and it is obvious that you need look no further.

And all you need pay is

£44

followed by monthly payments of £8/3/0

BY THE WAY, A STANDARD SAN SEBASTIAN SALMSON
HAS JUST WON THE FLORIO CUP RACE (1,100 c.c.).

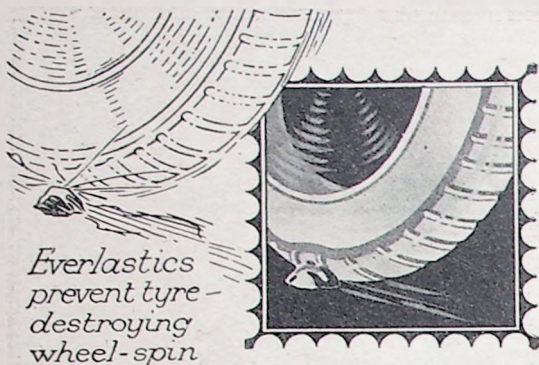
SOLE CONCESSIONNAIRES FOR UNITED KINGDOM AND BRITISH DOMINIONS:

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

Phone—CHISWICK 3531.

London Distributors: **GORDON WATNEY & CO., LTD., 31, BROOK ST., W.1.**

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



*Everlastics
prevent tyre-
destroying
wheel-spin*

Outer covers last 4 times as long!

Mr. W. Blamires, of St. Kevins, Queen's Rd., Harrogate, writes:

"You will probably be interested to know the extraordinary mileage I have got with Everlastics in standard '.....' Cord Covers. They are running on my 6-cylinder Minerva Car with Limousine body weighing (without passengers) 43 cwt., and three of the covers are the original ones delivered with the car just over two years ago.

I have now covered 28,300 miles and I think will reach 30,000—and then I have no reason to doubt but that your tubes will be good for a new set of covers. This, I think you will agree, is a remarkable run.

Six months ago I purchased another 6-cylinder Minerva Car weighing 47 cwt. (Limousine Saloon body). This was delivered with the standard '.....' Cord Tyres and '.....' Tubes which I did not change to your Everlastics, and with 7,000 miles the covers are nearly as far worn as those which have covered 28,300 miles. Please send me two more of your tubes for this car (895 x 135)."

EVERLASTICS pay for themselves by the outer covers they save alone. The toughness of the patented black rubber insertion prevents 95 punctures in 100. Its low limit of extensibility makes blow-outs practically impossible—covers can be run almost to destruction. Lower inflation pressures eliminate tyre-destroying wheel-spin and reduce strain on the chassis.

*Write to-day for sample section and
Price List and examine for yourself.*

ST. HELEN'S CABLE & RUBBER CO., LTD.
(Section C), SLOUGH.

EVERLASTIC

REGD. TRADE MARK

Inner Tubes

JUDD.

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.

A14



TOMORROW YOU MAY NEED IT WHY NOT GET IT NOW? FLUXITE simplifies soldering

FLUXITE
SOLDERING
SET—complete

7/6

All Hardware and Ironmongery Stores sell FLUXITE
in tins, price 8d., 1/4 and 2/6. Another use for
Fluxite—Hardening Tools and Cast Hardening.
Ask for leaflet on improved methods.
Fluxite, Ltd. (Dept. 420), Rotherhithe, S.E.0

Mr. GLIDEALONG— FLIES ALONG

on STANDARD MOTOR OIL. His life depends on the running of his engine; the running of his engine depends on the oil, but he is not afraid to trust himself to 'NULSEC' STANDARD MOTOR OIL, because he knows it retains its viscosity under the most trying conditions. Flying men are continually using it. This is what one pilot reports:—

"Engine much easier to start up after standing overnight. After a day's flying the oil retains its body to a wonderful degree. The pulling power of the oil is superior to others previously used. 'NULSEC' is the last word in lubrication for aeroplanes."

A postcard to the manufacturers will bring along the chart specifying the right grade of oil for your particular make of car.

THE
W. BLACKWELL OIL CO.,
VICTORIA OIL WORKS,
ASTON, BIRMINGHAM.

SECURITY FIRST



TOTAL FUNDS £35,790,927

MOTOR VEHICLE INSURANCE

Although specialising in Comprehensive policies covering practically all motoring risks, The "Royal" is prepared to issue policies

AT VERY LOW PREMIUMS

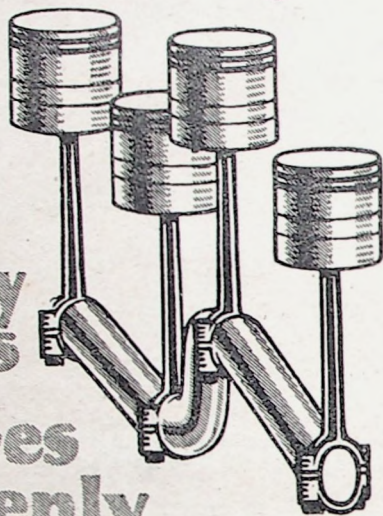
Covering Third Party Risks Only.

LIVERPOOL: NORTH JOHN STREET.		APPLICATION FORM.		LONDON: LOMBARD STREET.	
Please advise your terms for Insurance under a "Comprehensive" Policy. Third Party Only					
Car, Cycle, Com. Vehicle.	Make.	H.P.	Year of Make.	Value.	Purposes for which used.
Name.....					
Address.....					
L Agent.....					

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

Pulling their weight

a
dry
gas
fires
evenly



WHEN the power output of all four cylinders is equal, you get much smoother running, more power, and most economical consumption.

A dry petrol gas charges the cylinders more quickly, and therefore maintains even distribution of gas in all cylinders. This gives even running at all engine speeds.

Pratts Spirit yields a uniform dry gas and more gas per gallon—because Pratts Perfection Spirit vaporises perfectly; there is no heavy end to foul the engine and gum up the valves.

Pratts



Exclusively from the
World's richest oilfields

D.A. 953

3 POINTS TO KNOW ABOUT -clix

The Scientific Sparking Plug Attachment.

(World-wide Patents and Provincial Patents.)

- 1 "Auto-Clix" does away for ever with plug terminals. No more screwing and unscrewing, loss of time, lost terminals, electric shock or dirty hands. "Auto-Clix" gives instant connection or disconnection.
- 2 "Auto-Clix" enables you to test plug with the greatest of ease and without stopping the engine.
- 3 "Auto-Clix" acts as a thief-proof device. By simply withdrawing the scientific resilient plug the engine is rendered unstartable. Thieves do not wait to ascertain why.

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

1/- EACH.
4/- per set of 4.

Complete with
1. Adapter.

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

ELECTRO LINX LIMITED.
MOTOR DEPT.

Telegrams: "Trolinx, Chorton."
Telephone: Victoria 5120.

Manufacturers of Clix Radio Fitments.
254, Vauxhall Bridge Road, London, S.W.1.

Way

OUR USED CARS ARE GUARANTEED

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

100 OTHER BARGAINS from £50 to £500.
Best Exchange and Deferred Terms in London.

You never take a risk when buying a Used Car from

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

Phones - - - Museum 3081, 2122 and 0140.

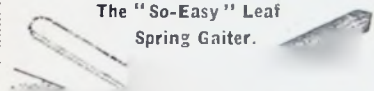
EVERYTHING for the ANNUAL TOUR at

GAMAGES

CAR ACCESSORIES, LUXURIES & NOVELTIES

LEAF SPRING OPENERS

The "So-Easy" Leaf
Spring Gaiter.



Enables you to
grease your
springs with
minimum of
trouble. It is the
simplest and
easiest to operate
on the market,
being far in
advance of those
operated by screw arrangement. The adjuster, once set, you can go round the whole lot, and open up the most obstinate spring with the greatest ease.

Price **6/6**
POST FREE

Schrader
Balloon

Calibrated in units of single pounds, from 10
lbs. to 47 lbs. Post free. Price **6/10**



DRIVER'S BACK CUSHION.

Never get hard or lumpy.
Make driving a pleasure
and prevent fatigue.
They fit the small of the
back, and give comfort-
able support just where
needed. In
Grey Pea-
mold. Price **21/-**

Can be supplied in black, blue, green or brown leather,
25/-



LUGGAGE GRIDS.

"Easyfit" Racks. Should be fitted to every car. An efficient lug-
gage rack, which also provides an excellent rear buffer, and saves
damage to car. To fit 7 h.p. Austin cars. Also stocked
to fit all makes of cars at slightly varied prices. Price **20/-**

WATERPROOF CAR COVERS

Sensational Offer of strong and serviceable waterproof car
covers at the following sizes and prices:-

12 ft. x 9 ft. .. **32/-**
15 ft. x 12 ft. .. **53/-**

BETTER SELECTION,
TERMS, AND MINIMUM
PRICES.
MAXIMUM VALUES.

SPECIAL OFFER

A NEW RANGE OF LIGHT CAR MASCOTS.

These are all modelled in bronze
and Silver Plated, the average
height being 3½". They are beau-
tifully finished, and greatly add
to the appearance of
Post 3d. Price **5/6**

AMAZING OFFER!

OIL FILLER and FILTER

for
AUSTIN 7
CARS.

Avoid all that
waste of oil, easily
filtered in a few
minutes.

Price **6/6** Carr.
Paid.

All Motorists should
obtain a copy of the
GAMAGE CATALOGUE

MAKE DRIVING A PLEASURE

THE STADIUM 7 h.p. AUSTIN GEAR EXTENSION.

This extension clips on the existing lever,
and enables all forward gear changes to be
made without having to lean so far forward,
which greatly add to the comfort
of driving. Post Free. Price **7/6**

THE IDEAL LIGHT CAR FOOTPUMP.

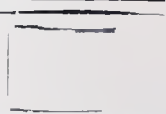
Strong and well made, powerful, compact,
inexpensive, and very greatly lessens the
labour of tyre inflation. Price **12/6**

BLACK WATERPROOF LUGGAGE COVERS.

Reinforced corners and strong eyelets for fastening.

Sizes.	Price.	Sizes.
9 ft. x 5 ft.	11/6	8 ft. x 5 ft.
7 ft. x 5 ft.	13/6	

TO FIT 7 H.P. AUSTIN CARS



"SCOPE MIRRORS"

Very well made and finished, and giving a
very wide range of vision of the road behind.
Splendid quality throughout and
really good value at Price **6/9**

SECURE NOW!

AUSTIN 7 TOOL BOX.

Made to fit the offside running-board. Will
accommodate Jack, Pump and all tool kit. Price **16/6**

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

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

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

We are privileged to say that
THE AUSTIN MOTOR CO., Ltd.
 approve and recommend

EXTRA HEAVY

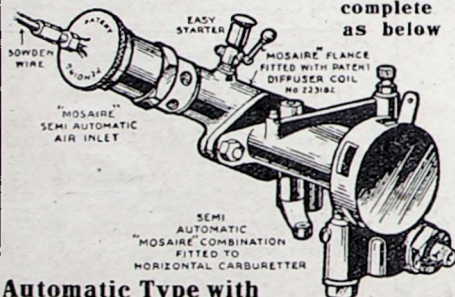
"Filtrate"
 REGISTERED

FOR THE
AUSTIN SEVEN

"A British Oil for a British Car."

FILTRATE WORKS, LEEDS.

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



Automatic Type with Rubber Diaphragms, Price 40/- complete

Fit The "Master" Extra Air Valve on 30 days' Free Trial, and obtain

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

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

ALDAM & CO.

(M Dept.), MISTERTON, DONCASTER.

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



Hand-operated model with Patent Diffuser Coil as above.

Price 30/- Complete.

HOMAC'S, LONDON'S LEADING MORGAN SERVICE HOUSE

DE LUXE MODEL.

Air-cooled £110
 Water-cooled £120

OFFICIALLY APPOINTED BY THE MORGAN MOTOR CO.
 Invite you to try a Morgan from their huge range before you come to any final light car decision. Catalogue on request. DEFERRED TERMS.

HOMAC'S
 MOTOR AGENTS

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

TRADE SUPPLIED.
 ALL SPARES IN STOCK.

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

EXPERT REPAIRS
 BY SKILLED
 MORGAN MECHANICS.



Procrastination is the thief of time

THAT is very true when it comes to motoring. To put off buying your car by so much as one day is to lose some of the enjoyment you might be getting from our all-too-short Summer.

Don't you be caught like that. Come around to the Service Company now and have everything fixed up so that you can take your car out on the road within the next few days.

We can help you by telling you all about the cars that interest you . . . their behaviour, their running costs, their funny little ways—if they have any. We can advise you so that you will get the utmost value for every pound you spend. And we will guarantee you satisfaction in your purchase.

Another service we can render you is that with us you have no need to pay cash down. Under our fair and direct scheme of deferred payments a small amount of the purchase price only is required for immediate delivery. The balance is met by equally spaced payments that you will find it easy to meet.

USED CARS.—Should you be wanting a second-hand car, we have a number of overhauled demonstration and used models that can be bought for cash or easy payments. Every one is a genuine bargain and is backed by our reputation.

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

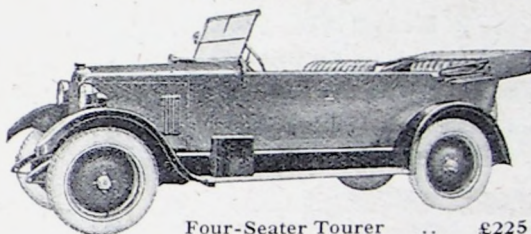


Four-Seater Senior £220
£44 down.

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

Tax and Insurance may be included in these terms if desired.

ROVER

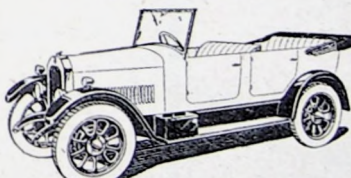


Four-Seater Tourer £225
£45 down.

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

Tax and Insurance may be included in these terms if desired.

SWIFT



4-Seater Touring £210
£42 down.

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

Tax and Insurance may be included in these terms if desired.

Other makes in stock include most models of:—

**AUSTIN, CITROEN,
CLYNO, JOWETT,
PEUGEOT,
WOLSELEY.**

NO DEPOSIT SCHEME.

We can supply any new car under this scheme. The first monthly payments secures delivery.

The Service Company Ltd. (LONDON)

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

Telephone: Holborn 0666 (3 lines). Telegrams: "Admittedly, London."



Meet Mr. Jones,

The Proud Possessor of the

Miniature Motor Car.

Jones has an unalterable Illusion that

It is a LARGE & R o o m y Bus.

He has got that Big Car Feeling

Because He has fitted LEVEROLLS.

Watch him Alighting, Not Omitting

To Observe how his Fair Passenger

Permits Unhindered Exit by gliding her Seat

Backwards.

If Rear Passengers wish to

Leave or Enter

With^o_ut Th^h_is S^r_t Of T^h_in^g,

Forwards does it!

Won't YOU get that Big Car Feeling?

You don't have to Spend a Lot

To ride as if you'd a Lot to Spend.

.....

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

A REMINDER.

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

A. W. CHAPMAN LTD.,

Patentees and Manufacturers,

Ranelagh Gardens, HURLINGHAM, S.W.6.

Telephone: Putney 2372/3.

Touring Essentials

"EASYFIT" BUMPERS

will make your motoring safer, whether touring or otherwise. Congested roads and garages make this fitment a necessity and may save you many pounds' worth of damage. For a small sum you can have protection front and rear. The *Adjustable* Bumpers illustrated are exceptionally strong, of spring steel throughout heavily nickel-plated front bars, black fittings. No drilling.

From 50/- complete.

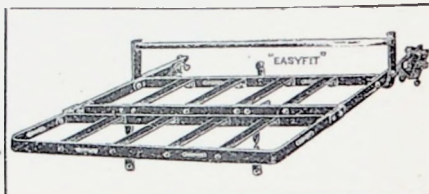
Rigid type for other cars from 30/-
Front or Rear.

"EASYFIT" LUGGAGE RACKS

Over 50,000 sold. Better value unobtainable.
From 25/- Lighter pattern for Jowett and
Austin Seven, 20/- Singer Junior, 30/-

Write for List.

Frank Ashby
& Sons, Ltd.
Stirchley,
Birmingham



£25 DOWN

secures delivery of Austin "7s."

The economy cars.

Chummy - - - - - £145

Saloon - - - - - £165

Gordon England Saloon £195
at Works.

Deferred terms are transacted with us with utmost privacy and confidence.

Leading Specialists in the North of England.

Distance no object.

Driving tuition extended gratis.

Other specialities: Clyno, Singer, Citroen, etc., on similar terms.

W. Mitchell (Leeds) Motors LTD.,

23-27, Roundhay Road, Leeds.

'Grams: Tel.: 41382.

a "Baby" that Knocks out Fires



THE NEW SIZE FOR LIGHT CARS, CYCLECARS, ETC.

AS SUPPLIED TO POLICE AUTHORITIES.

Extinguisher filled, ready for use, and complete with bracket for fixing on car.....

(Nickel-plated only.)

EXTRA REFILL.....

28'6

2/10

ASK YOUR GARAGE

or write to:—

KNOCK-OUT FIRE EXTINGUISHERS LTD.
16-18, BARDWELL STREET, NORTH ROAD, LONDON, N.7.
North 3747.



CARRY THIS COMPLETE TYRE REPAIR SERVICE WITH YOU ALWAYS

No tools or heat required to mend a pin-hole puncture or a blow-out—just your two hands and a Handy-Andy! As good as a vulcanized job, because the heat of the road actually vulcanizes the Handy-Andy patch to the tube. No need to wait, because the hotter it gets the tighter it sticks!

1'9
SMALL
SIZE

Handy-Andy Carton, containing supply of three-ply self-vulcanising patching rubber, tube of non-inflammable solution, pair of scissors and rasp for cleaning tube.

3'
LARGE
SIZE

Obtainable at all garages or direct from the address given below

Made by the Manufacturers of

Miller TYRES

Adm. of Industrial Rubber Products Ltd., 191-2 Tottenham Court Road, London, W. 1.
Scottish Depot: 266 Howard Street, Glasgow. G.J.S.

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

It happened to come first . . . Let us hope the cat didn't mind and that it will be retrieved in the morning! For this form of service an old Boot is to be recommended; moreover it lends itself better to our theme.

**YOU SEND OLD SHOES TO BE RE-SOLED:
WHY HEAVE OUT A WORN DOWN TYRE?**

*We can rebuild it for you
at half the cost of a new cover
and guarantee another 7000 miles!*

Because tyres are cheap there is still no economy in waste. Double your mileage at half the cost.

In order to give readers of "The Light Car and Cyclecar" an opportunity of testing the Quality of our Work we are prepared to execute initial orders at the following special

SCALE OF CHARGES:

27 x 4'40 — 23/9	715 x 115 — 23/-	28 x 3½ — 22/-
28 x 4'95 — 27/4	730 x 130 — 28/-	710 x 90 — 22/6

YOUR HOLIDAYS CAN START WRONG WITH TYRE TROUBLE—LOOK THEM OVER FIRST
Free passenger carriage one way; free goods both ways for one cwt. lots.

REPETITION TYRE COMPANY Ltd.

(Incorporating the Full Circle Mould Process for Rebuilding Motor Tyres)

Telephone:
Mountview 3471.

224, Archway Rd., London, N.6.

Telegrams:
"Tyrepeata."



The process we employ constitutes a complete innovation in Tyre Economy. It differs fundamentally from the various old-fashioned methods of "retreading" in that perfect amalgamation is effected by virtue of a single cure; this not only provides for a uniform finish otherwise impossible of achievement by operating in sections, but what is of paramount importance, it ensures absolute consistency of treatment. None but the finest material procurable enters into the composition of any tyre which we may accept for processing.

Trade terms on application.

REALLY WONDERFUL VALUE!

BERKELEY BROS.,

Manufacturers of the well-known

"BERKELEY" COMBINED TEA AND LUNCHEON BASKETS

are now offering these High-class
Picnic Outfits direct to the public

AT HALF SHOP PRICES!

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

THE "BERKELEY."
In Three Sizes, viz.:—
For 2, 4 and 6 persons.

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

LARGER SIZES:—

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

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

Free Delivery London District, Carriage paid, elsewhere.

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

SATISFACTION GUARANTEED OR MONEY REFUNDED.

Sold at once for
immediate delivery.

BERKELEY BROS. (Dept. C),
179, VICTORIA ST., LONDON, S.W.1.

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



Let the
Editor of
The Motor
teach you
to drive!

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

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

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

2/6 Net

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

TEMPLE PRESS LTD.,

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

Wholesale Agents: E. J. Larby, Ltd., 30, Paternoster Row, E.C.4

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

Why you should join the R.A.C.

STUNG

The Motorist who tried to conduct his own defence

Free legal defence in any Police Court in the United Kingdom is one of the R.A.C. benefits to which all Associate-Members are entitled, also Free Advice and Assistance in Civil Claims, Arbitration and Appeals. Financial Assistance is even given in certain cases.

ROAD SERVICE IS NEEDED BY EVERY MOTORIST.

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

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

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

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

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

Name.....

Address.....

"The Light Car."

Safety for 13/6

Postage Ninepence extra.

The illustration is Model 8c, one of the famous Delco - Remy line. Simple, efficient and of classic appearance. Tone pleasant, vibrant, compelling. Of all dealers or direct from makers.

State 6 or 12 volt.

Delco - Remy Horns

Delco-Remy & Hyatt, Ltd., 111, Grosvenor Road,
London, S.W.1. Telephone: Franklin 6446 (4 lines).

OTHER MODELS:

Model 18, 49/6, postage 1/-. Model 25, 63/-. postage 1/-. State 6 or 12 volts. Model 3V. (hand-operated), 18/9, postage 9d. (Special Prices Irish Free State.)

R.N.R.

READ THIS REMARKABLE TESTIMONY.

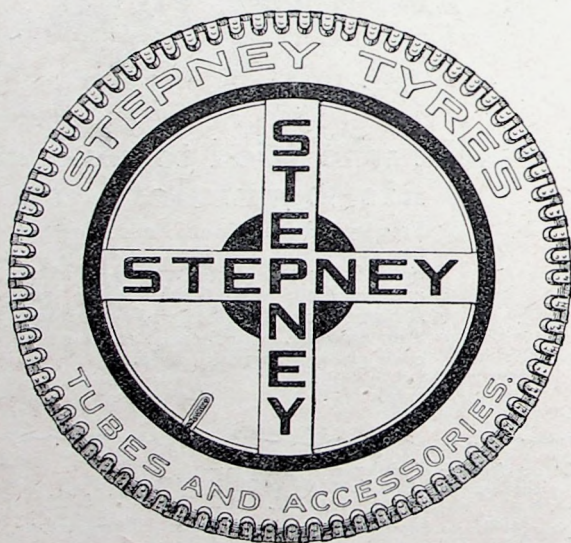
97, Oakfield Road,
Cannon Hill,
Birmingham.

Dear Sirs,

It will no doubt interest you to know that a pair of 27 x 3.75 STEPNEY tyres and tubes which were fitted to my 700 x 80 rear wheels of my 10 h.p. SWIFT Car last October, twelve months, have since done 19,500 miles. The car has been almost in daily use and the tyres are still in good condition, quite free from cuts or abrasions and have only punctured once each during the whole time. I have never had such service from back tyres before, and take this opportunity of expressing my appreciation.

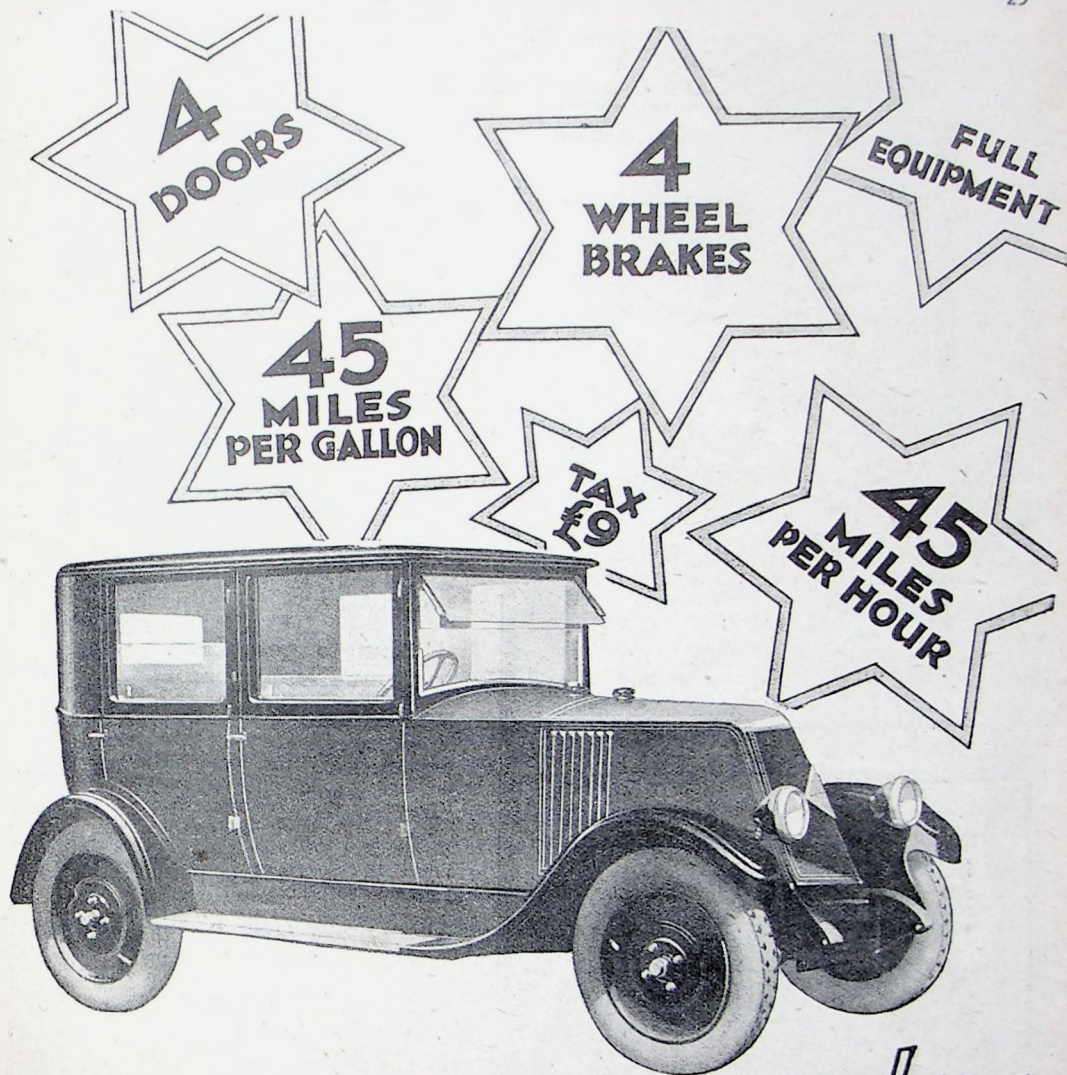
Yours faithfully,
(Sgd.) M. L. WILSON.

SATISFIED USERS EVERYWHERE.



MADE IN ENGLAND BY
STEPNEY TYRES LIMITED
LLANELLY, & WALTHAMSTOW, LONDON E 17.

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



RENAULT 9/15

Greatest in ratio of speed to horse power — greatest in reliability — greatest in petrol economy — greatest in comfort — the greatest low priced car in all that makes for motoring safety and convenience. The figures prove it, a trial run will demonstrate it. Call at our Showrooms, or write for fully illustrated literature and technical specifications.

Prices: Two seater with double dickey, £159. 10 Standard Open Tourer £167. De Luxe Open Tourer £184. Four Door Saloons from £207. Coupés from £225.

Models from
£159-10

**NOW READY FOR
IMMEDIATE DELIVERY**

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

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

AUSTIN TOURS

NORWICH CATHEDRAL.

The Cathedral was founded in 1096, and is mainly of Norman Architecture. It possesses an exceptionally long nave, with fine vaulted roof; a unique stone Bishop's Throne; vaulted cloister walks; and the second highest spire in England.

How to get there from Birmingham.

Take the road through Stonebridge to Coventry. Thence through Rugby and Market Harborough to Oundle. Through Peterborough, Thorney, King's End, March and Nordelph to Downham Market. Thence by Stradsett, Swaffham and East Dereham to Norwich.

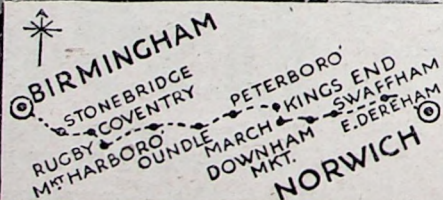
*This journey costs less than
3rd class Rail fare—on an*

*Austin
Seven*

Price at Works £145

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

LONDON—
479-433,
OXFORD ST.,
W.1.



BRIGGS

The Light



IN THE FLORIO CUP RACE.

Exciting incidents occurred in the Florio Cup Race at St. Brieuc on Sunday. (Above) Brunet (Talbot) skid's round the tail of Salmson No. 2 which has narrowly averted crashing through the railings. (Left) This photo was taken a little later as a B.N.C. shot through the palisade at the same corner. The driver of Salmson No. 2, having learnt his lesson, is taking the corner in a wide sweep.

NOTES, NEWS & GOSSIP *of the* WEEK

Furious Cycling.

There were 183 prosecutions in the Metropolitan Police district for riding bicycles furiously or to the common danger in the 12 months' period ended May 31st, 1927.

Brooklands Meeting.

An attractive programme has been drawn up by the Brooklands Automobile Racing Club for the afternoon of August Bank Holiday, August 1st. Racing begins at 1 p.m.

This Week.

Widespread interest has been created by our article on the pros and cons of free-wheel clutches, which appeared last week. The result has been a large number of letters on the subject and a selection is given in this issue. In addition, we publish an interview with Major H. O. D. Segrave, who gives his carefully considered view on the subject. A new feature, "On the Tapis" makes its appearance. As its title suggests it is intended to keep readers in closer touch with all that is going on in the light car world from both a sporting and production point of view. In another article a revival of two-cylinder light cars is suggested.

No. 763. VOL. XXX.

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LIGHTING-UP TIMES (Rear Lamps) for Saturday, July 23rd.

London .. 9.30	Birmingham 9.42
Newcastle .. 9.54	Liverpool .. 9.52
Edinburgh .. 10.6	Bristol .. 9.40
Moon New, July 8th.	

A Commercial Three-wheeler.

A Coventry-Victor three-wheeler van excited favourable comment in the recent commercial sidecar demonstration organized by the A.C.U., which started from Liverpool. It carried a substantial load of "goods" and a passenger as well.

A Small Car "Agony."

The following advertisement appeared recently in the London *Times*:—"Dr. Florence McGeorge is requested to claim the 8 h.p. car she left with the Rover Co., Ltd., Birmingham, in August, 1925, within 14 days from this date, failing which it will be sold to the best advantage."

Next Week.

Converts to the small four-cylinder-engined car continue to be made in large numbers, but many have graduated from large cars and fail to acquire the knack of handling modern high revving engines of comparatively small capacity. In "Getting the Best Out of a Small Four-cylinder Car," which will be one of the principal features next week, an endeavour will be made to pass on the benefit of the wide experience of our staff with this type of car.

International Six Days' Trial.

Entries, at single fees, for the International Six Days' Trial close tomorrow, Saturday, July 23rd. This trial, which is run over a course in the Lake District, will be held from August 15th to August 20th. It is organized by the Auto-Cycle Union, and three-wheeled cyclecars are eligible to compete. We hope to publish the three-wheeler entries next week.

The Balloon Danger.

A motor coach driver was summoned at Northwich recently for allowing passengers to fly balloons from his char-a-bancs "to the danger of other people using the highway."

Bridge Closed.

We are informed that the overbridge and road approaches leading to Hanny Hotel, Aberbeeg, North Wales, are unsafe for vehicular traffic, and will be closed for repairs until October 17th next.

Breakdowns in June.

During the month of June the R.A.C. road services dealt with 709 cars under the "get-you-home" scheme. Quite a large proportion of these cases was due to cars becoming bogged as the result of parking on soft ground by the sides of roads.

Freeing the Wye Bridges.

In an endeavour to have the tolls from five bridges over the River Wye removed, representations are being made to the county councils concerned. The main Cardiff-Penarth road may also be freed from tolls in the near future, the Penarth authorities having expressed their willingness to bear part of the expense incurred. These are certainly steps in the right direction.



Considerate motorists would at all times respect a request of this description.

The "London-Barnstaple."

The London-Barnstaple Trial (organized by the Surbiton Motor Club) will take place on July 29th and 30th, starting from Kingston at about 10 p.m. Porlock and Beggars' Roost are included in the route, but there will be no secret checks. Entries close to-day. The hon. organizer is Mr. Warren Lambert, 142, St. Margaret's Road, St. Margaret's, Middlesex.

Exhibition of Inventions.

The Third International Exhibition of Inventions will be held at the Central Hall, Westminster, London, S.W., from October 12th to 22nd. A particularly interesting feature of this exhibition from the small inventor's point of view is the scheme whereby an invention may be shown at the exclusive cost of £1. The offices of the organizers are at 39, Victoria Street, London, S.W.1; and inquiries from inventors are invited.

B12



WEEKLY WISDOM.

Give heed unto goodly warnings
that thy days may be long in
the land.

A New British Tyre Factory.

It is announced by the Goodyear Tyre and Rubber Co. that they propose shortly to establish a factory for the manufacture of motor tyres at Wolverhampton, where a site of about 22 acres has been acquired. It is anticipated that production will start early next year, and that the capacity of the new plant will be in the neighbourhood of 2,000 tyres and tubes per day. The Goodyear company is already manufacturing in Akron, Ohio; Los Angeles, California; Bowmanville and Toronto, Canada, and Sydney, Australia.

INGENIOUS DECORATIONS.

These decorated cars appeared at the recent Plymouth Civic Week. On the right is a Morgan and below a Trojan.

Blackpool Flying Squad.

A "flying squad" of motorcycle police has been formed at Blackpool, the chief duties of the squad being to detect and prevent road offences and to control traffic.

Swift Successes "Down Under."

In addition to successes in the severe Three Days' Australian "Herald" Trial, recently reported in these columns, a 10 h.p. Swift car put up the star British performance in the R.A.C. of Victoria Dependability Test.

Rats Undermine Roads.

The sudden collapse of the Bromley-to-Bickley road after a bus had passed has been found to be due to the activities of large rats below the surface. Another Bromley road subsidence has since occurred through the same cause.

Road Closed Since Easter!

Since Easter, Court Road, Eltham, a main thoroughfare, has been closed to through traffic owing to road subsidences. Repairs are said to be proceeding in such leisurely manner that the road is unlikely to be reopened until November. Traffic is diverted by the Sidecup by-pass and a narrow lane.

Parking in Liverpool.

Official car parks in Liverpool are now organized by the local Soldiers' and Sailors' Help Society. There is a uniformed ex-Service man in charge of each park, the charges being 1s. per day or 6d. for 2 hrs. The following parks are officially recognized:—Derby Square, six cars; Newington, eight cars; Williamson Square, 20 cars; Brunswick Street, 25 cars; Crosshall Street, 12 cars; Canning Place, 10 cars.

Openings for Aircraft Apprentices.

The Air Ministry announces that 600 apprentices between the ages of 15 and 17 will shortly be required and will be selected by examination. A good opportunity is provided for youths of good education with a keenness for things mechanical to serve a thorough apprenticeship and to become skilled men.

Austin Works Flooded.

The Austin works were completely closed down for two days last week on account of the flooding out of the power house. Deliveries have not been interrupted.

R.A.C. Approved Inns.

The R.A.C. is arranging to inspect all inns supplying 2s. meals with a view to ascertaining their suitability for providing sleeping accommodation at reasonable charges. It is proposed that such inns as satisfy the inspectors will be given a distinctive mark in future lists as these are issued.

For Overseas Visitors.

Luxurious club accommodation has been secured at 21, Northumberland Avenue, London, W.C.2, by the Overseas Motor Traders' Club, which is associated with the Society of Motor Manufacturers and Traders. Any motor trader visiting Great Britain this autumn is invited to apply for honorary membership.

Parking Charges.

As the result of the R.A.C. action, no official charges are now made at car parks situated on public roads in towns in Oxfordshire, Berkshire and Buckinghamshire, with the exception of Windsor, where the matter is now receiving the attention of the local authority.



BRIGHTER SIGNPOSTS.

This attractive village sign has been erected at Horning, Norfolk, by public subscription.

Bumper Dimensions Standardized.

The Standards Department of the S.M.M. and T. has just issued a provisional standard relating to the dimensions of bumpers for private cars and commercial vehicles. The main clauses of the standard specify that the horizontal centre line of the bumper face shall be 20 ins. above the ground for front fenders and 21 ins. from the ground in the case of those fitted to the rear, these measurements being taken with the vehicle carrying the normal amount of petrol, water and so forth, but without passengers; the minimum vertical depth of bars for the single-bar type is given as 2 ins. We comment on the importance of the standardization of these fittings under "Topics of the Day."

Other provisional standards just issued by the S.M.M. and T. relate to the dimensions of brake and clutch linings and compression taps.

Scottish Six Days' Trial.

The cyclecar and car competitors in the Scottish Six Days' Trial, which starts on Monday next, are as follow:—

93. J. M. Watson (1,096 c.c. Morgan).
94. Frank Spouse (1,098 c.c. Morgan).
100. G. C. Harris (1,096 c.c. Morgan).
102. H. J. Voller (1,096 c.c. Morgan).
105. P. D. Walker (1,496 c.c. Lea-Francis).
106. A. G. Gripper (1,496 c.c. Alvis).
107. H. C. Sheehan (1,074 c.c. Rover).
108. E. F. Ringwood (1,095 c.c. Matbis).

Our Cover Picture.

The car shown in our attractive front cover photograph this week is a four-seater Jowett.

The Eternal Question.

Where is the £100 car? Again and again this question is being asked in the lay Press, and no answer as yet appears to be forthcoming.



An artist's impressions of personalities at last Saturday's Brooklands meeting, a full description of which appears elsewhere in this issue.

ROADS ARE A NATIONAL INVESTMENT

INTERESTING FOREWORD BY LORD MONTAGU OF BEAULIEU.

IN a foreword to a booklet on the future of the highways of Great Britain, by Mr. J. Inglis Ker, F.R.G.S., F.S.A.Scot., Lord Montagu of Beaulieu writes:—

"The Ministry of Transport as it exists to-day has been hampered for some time past, from the road point of view, by the obligation of considering also the interests of railways, tramways and, quite lately, of electricity, with which roads have little concern. Roads in themselves are quite an important enough task to employ the energies of a separate and efficiently conducted Government department. In France they have the *Département des Ponts et Chaussées*, and all over Europe and in all the great British nations overseas there are departments in the Governments of these countries to whom the care of roads is confined.

"We are told that the Ministry of Transport in Great Britain is to be broken up in the interests of economy—a saving for which no corroborative figures have yet appeared; but no assurance has yet been given that the interests of roads are to be under any department's special care. At the moment it appears as if neither Mr. Winston Churchill nor the Government as a whole appreciate the very strong feeling existing in the country that roads must not be neglected, especially

now, and that road users are apprehensive of future raids upon the Road Fund. The public is beginning to realize that expenditure upon roads is a splendid national investment, and, although opposed by certain vested interests, such as railways and tramways, the construction of new roads, and the reconstruction of old highways, must proceed without delay if the vehicles now on the road to-day, and those which will be on the road ten years hence, are to be accommodated. Already many of our chief highways are much congested, and more actual street and road space is needed for the vehicles running on them to-day.

"A Minister of Roads should be a Cabinet Minister also, and, if this is not possible at the moment, the Ministry of Roads should be represented by the Cabinet Minister of a department which will have sympathy with roads. Moreover, this question of roads is apart from and beyond all political issues. It is, I am glad to say, at the moment not complicated by party considerations. At the same time, unless the advocates and lovers of good roads combine and make their voices heard, rival interests for their own private gain will hamper the development of roads as national highways."

ON the

THE EDITOR DEALS WITH PLANS AND
POSSIBILITIES IN THE WORLD OF
LIGHT CARS.

IN presenting this new feature we are actuated by a desire to give our readers in concrete form all the latest news concerning light car developments—not only in connection with manufacturers' programmes but in the world of sport, and so on; in brief, we aim at providing from time to time a précis of what is on the tapis—the cream of the news in a few lines.

We shall soon be writing about the 1928 models. What is to be the outstanding feature? News leaks out from several factories that new 9 h.p. models will fill more space in the pages of our Show Numbers than any other important departure for next season. The indications are that there will be at least three new British light cars with engines under 1,100 c.c., and possibly under 1,000 c.c. They will aim, we fancy, at providing four comfortable seats for four grown-up people, and they will be in every respect big cars in miniature. Under the bonnets there will be high-efficiency o.h.v. engines, and the whole design and equipment will be in keeping with the present-day demand.

Another tendency is towards the use of half-elliptic springs both back and front. Quarter-elliptics are efficient, cheap, serviceable and easily maintained in first-class condition. Two or three years ago, however, it was found that front-wheel braking systems were not easily designed in conjunction with quarter-elliptic front springs, and, in consequence, nearly all the light car chassis on the market have sprouted dumb-irons of recent years. Next year, we understand, several of them will also have half-elliptics at the rear. There are those who say that the half-elliptic cannot be beaten on any count, but in our view the quarter-elliptic still has a great deal to recommend it, and its abolishment should be more a matter for regret than otherwise by all those who believe that lightness, simplicity and ease of maintenance are vital factors in the design of a small car.

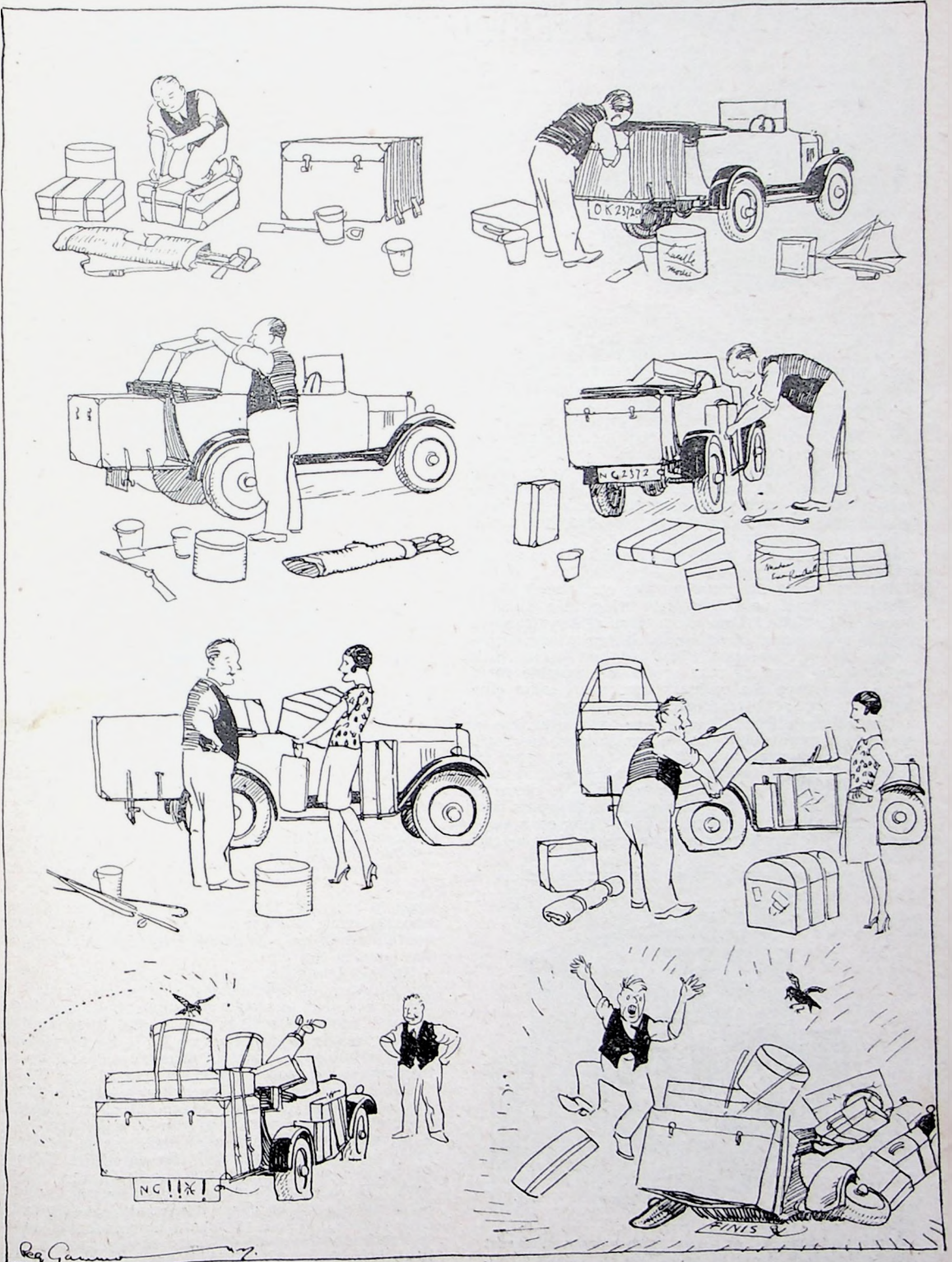


It is possible that the Hotchkiss drive principle may accompany the introduction of half-elliptic springs in the case of certain models, which proves nothing more, in our opinion, than the fact that fashion goes in cycles just as much in car design as in feminine raiment, for, although the Hotchkiss drive principle has points which recommend it, there are undeniable advantages obtainable from the use of a torque tube or torque arm laid out in the manner which has become so popular of recent years.

There seems to be some doubt in the minds of folk who own cars with four-wheel brakes—the hand-brake operating the same pair of shoes in the rear drums as the foot-brake—that this arrangement does not meet with the requirements of the law regarding independent brakes. As a matter of fact the question has been gone into by the London authorities, who raise no objection. Presumably they take the common-sense view that an arrangement like the above meets the law both in the letter and the spirit far more than one employing a drum on each rear wheel, one actuated by hand and the other by foot. This would be correct so far as the regulation goes, but, on cars fitted with differentials, it would obviously be a dangerously inefficient method. 'The "combined" system is now being considered by several makers who have favoured other methods and promises to become popular in the near future.

Readers who were interested in our exclusive announcement of a new light car—the 1,500 c.c. Bond—may have wondered whether Capt. Malcolm Campbell, who had undertaken the task of trying out the first chassis, was satisfied with it and whether the car is to be marketed. We can say quite definitely that it will be—but not until certain modifications suggested by Capt. Campbell have been carried out, tested and approved. The idea is to turn out a very high-grade British car with a performance well above the average. One of the redesigned chassis is nearing completion and we have been promised a test run at an early date. Amongst the alterations which are being made are semi-elliptic springs all round and the substitution of an overhead-valve for a side-valve engine. The body will be essentially of a sporting type.

THE LAST STRAW!



A story without words, but with a very obvious moral for holiday tourists.

DIFFICULTIES IN DESIGNING SMALL ENGINES.

MANY PROBLEMS OF DESIGN AND MANUFACTURE NOT MET WITH IN LARGE ENGINE PRACTICE HAVE TO BE SOLVED WHEN SMALL ENGINES ARE BEING PRODUCED. THE MAIN DIFFICULTIES ARE EXPLAINED IN THIS ARTICLE.

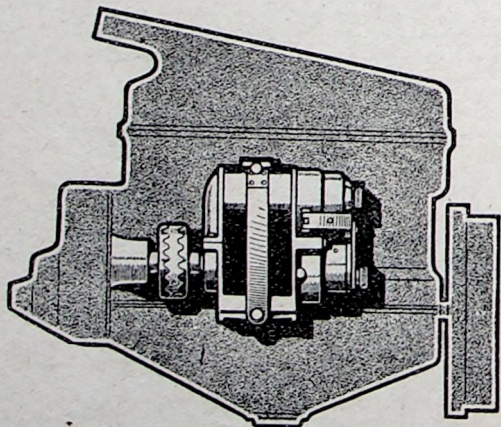
A FEW weeks ago I was given the privilege of driving the 50,000th Austin Seven for over 200 miles, and as I did so I could not help recalling that cold winter morning when Sir Herbert Austin introduced his brain-child to a gathering of Pressmen and engineers at Olympia. They were frankly sceptical, but in the few years that have intervened many a four-cylinder engine of under 900 c.c. capacity has come to light and proved its worth.

Only those, however, who have worked on the evolution of such a unit understand the difficulties that the manufacturers have to overcome before the first little engine propels its tiny test chassis over the roads. Right from the first moment that a production is mooted snags are met with which threaten its existence.

First there is the drawing-office staff—used to big stuff—finding it very difficult to bring their minds to bear on the little fellow. Men, even skilled draughtsmen, are creatures of habit, and if you tell one accustomed to power-station Diesel engines to design a small hand lever he may evolve one suitable for a lorry; and even the ordinary car expert takes days before he can get a true perspective.

One of the difficulties that have to be overcome on the drawing-board is the tendency to leave too small a clearance around nuts. To leave a $\frac{1}{8}$ -in. space all round a $\frac{1}{2}$ -in. Whitworth nut seems the natural thing to do, but on a $\frac{1}{8}$ -in. B.S.F. nut such a clearance appears to be ridiculous. Nevertheless, designers must remember that the human hands working on a small engine are no smaller than those operating on a large unit.

The foundry forms one of the greatest difficulties

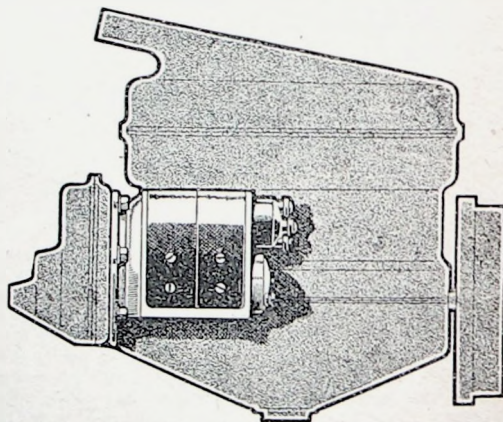


A magneto mounted as shown above occupies an amount of space which is out of proportion to the size of the engine. In addition the layout is rather expensive.

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within the works itself, for there is a very definite limit to the size of water-jacket cores and to the thickness of cast-iron walls. No foundryman likes to have less than $\frac{1}{8}$ -in. water space round the cylinders, for the obvious reason that the cores are difficult to build up, and he has also to exercise great care when the thickness of the water-jacket wall is reduced to much below $\frac{1}{8}$ in.

In a big engine the thickness of the castings is governed by the heavy stresses that the metal is called



Mounted in this manner a magneto forms a compact and inexpensive assembly. No base bracket is needed and the armature shaft carries the timing-chain sprocket.

upon to bear, but the loads imposed by a cylinder of under 60 mm. bore are so small that wall thicknesses are almost invariably decided by the minimum that the foundry can cast.

Another limitation that the designer has to face is the accuracy of the foundry. After all, a man cannot be expected to mould a complicated structure out of sand, pour molten iron into it and then produce a casting correct to fine limits. As it is the moulder's work is but little short of marvellous, and no sane man would ask more of him.

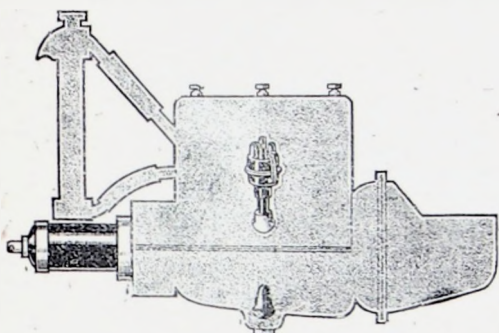
The designer of a big four-cylinder lorry engine has plenty of room for everything. His connecting-rods need never come nearer to the cylinder walls than $\frac{1}{8}$ in., and he can leave a similar clearance between the big-end bolt heads and the camshaft. The designer of a small engine has but little space to play with. He has to think in "sixty-fourths" and he must always be in close touch with the inspection departments. Where parts are machined and ground to fine limits the same difficulty is experienced, for it is obvious that if 1-1,000 in. is considered a safe limit for a 4-in. bore cylinder it is equally clear that a

very much finer tolerance will have to be fixed for a 2-in. bore.

The machine shop and forge both have their difficulties, because on very small and light parts the pressure of the tool used in cutting them is sufficient to cause distortion unless extreme care is taken.

In this connection it is interesting to note that duralumin is making progress for connecting-rod forgings, largely because it provides a sufficient bulk for the die stamper. A duralumin rod, owing to its lower strength, must have a larger cross-section than a rod made of high-tensile alloy steel. As, however, the weight of the aluminium alloy is very much less than that of steel there is a saving of weight in the rod.

It is, nevertheless, surprising that manufacturers of very small engines have not followed the lead of the



A direct-coupled dynamotor and battery ignition form an ideal layout for a small engine. The distributor is driven by skew gearing from the camshaft.

A.J.S. motorcycle people and fitted aluminium alloy valve-spring cups and overhead-valve rockers. In weight and in ease of manufacture these fittings show many advantages over steel, and the A.J.S. record in racing has been so extraordinarily good that no qualms should be felt as to the suitability and reliability of the metal. The choice of metals and the fixing of limits, however, is a domestic affair controllable from inside the factory.

If one takes up a position at the side of a busy main road one notices that the traffic stream moves at a uniform speed, which may be 20, 30 or 40 miles per hour, according to local conditions. Both small and large-engined cars travel at the same pace, and the user of a small engine expects nearly the same performance from it as the owner of a three-litre unit. He objects to being left in the traffic stream and usually drives his tiny unit "flat out" for miles on end. Because the large engine is seldom fully extended minor imperfections in the lubrication or cooling systems pass unnoticed, but the small unit must be right; nearly perfect is not good enough.

Electrical Equipment.

The chief snag, however, that the manufacturer of a small British engine has to face is, in my opinion, the electrical equipment, and in this connection I cannot help thinking that our electrical manufacturers are far less enterprising than their Continental or American rivals.

In making this statement I wish it to be understood that I am not an electrician and that I am judging purely by my experience of the units in practice. I do not mean to infer that our equipment is less reliable than that made abroad, but that it is not so well finished and it is rather more clumsy. Further, I trust that what follows will be accepted in the spirit of constructive criticism in which it is offered.

Many Continental cars are fitted with a single-unit combined dynamo and starter driven off the front end of the camshaft. The unit is small, so silent in action

that it cannot be heard and is entirely satisfactory in operation, even with large engines.

Some few months ago a designer whom I know wrote to a British electrical concern for a dynamotor. The engine to which it was to be fitted was a four-cylinder model of about 1,000 c.c. capacity. When the electrical unit arrived it was longer than, and nearly as heavy as, the engine. By way of a joke we made a rough sketch of it on the front end of the engine. It projected beyond the dumb-irons!

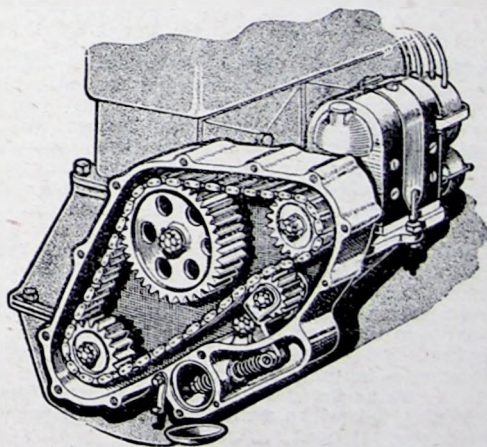
After a lot of correspondence we were advised to get into touch with another concern which had a chain-driven dynamotor to offer. This was designed to be driven at not less than $1\frac{1}{2}$ times engine speed, and its maximum speed was very definitely 5,000 r.p.m.; but this figure, we were informed, was dangerous, and 4,500 r.p.m. was the recommended top speed. This would have involved keeping the engine speed down to 3,000 r.p.m., however, so the instrument was declined.

A Convenient Layout.

Ultimately a two-unit system was chosen and the starter was mounted alongside the gearbox, merely because the whole of the engine was already covered with electrical equipment. The magneto occupied nearly all one side and the dynamo the other. A crankshaft-driven dynamo of the small size and weight of the unit fitted to the 9 h.p. Fiat appears to be unobtainable in this country.

The present standard British design of magneto is slightly over 7½ ins. long from the rear end of the armature shaft to the terminal on the contact-breaker cover. Another 2½ ins. is added to the length by the vernier coupling, and the combined total assembly exceeds the length of the cylinder block of the engine in question. The present standard magneto shaft is as outlined in an accompanying dimensioned sketch.

It will be seen that the big-end of the taper is 15 mm., or .591 in. Providing that this shaft were made of a good piece of metal and mounted on a decent bearing of proportions similar to the ¾-in. Hoffmann medium type radial there would be no objection



Given a sufficiently strong armature shaft a single chain drive could be used for the whole of the timing mechanism. A jockey sprocket tensions the chain.

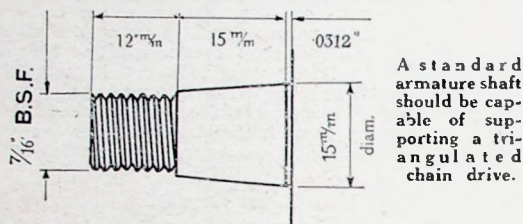
to making a triangulated chain drive, so that one chain would serve to drive the camshaft and the magneto, which could be provided with its existing end-plate mounting and the chain could be tensioned either by a flat spring rubbing against the backs of the links or by a jockey sprocket.

An arrangement of this kind would greatly improve the accessibility of the contact breaker when the magneto was mounted alongside the cylinder block.

A saving of 3 ins. to 3½ ins. in length could be effected

in the magneto and its drive assembly. The cost, weight and complication of a magneto platform and coupling would be saved, and the manufacturer would cut out at least 7 lb. of metal—mostly expensive aluminium—besides 30s. in cost.

So far, however, electrical manufacturers in this country have set their faces against this layout, although their American coil-ignition rivals not only sanction it, but hold it out to designers as an inducement to patronize their wares.



It seems that very little internal alteration is required to the magneto to bring about the much-desired change, and I trust that these notes will be taken in the spirit of constructive criticism.

Given no restrictions by the electricians, I would arrange for an electrical equipment layout as shown in one of the sketches. In this a single-unit electrical machine is mounted on the front of the crankshaft. The commutator projects through the radiator and it is protected by an aluminium cover on the machine itself and by an apron on the car. A separate shaft drives the high-tension distributor.

The dynamotor casing would be strong enough to act as a front support for the engine, and the layout has the advantage of low cost, weight and great accessibility. It may be argued that not sufficient torque could be generated by such an electrical machine to start the engine, but I maintain that the torque re-

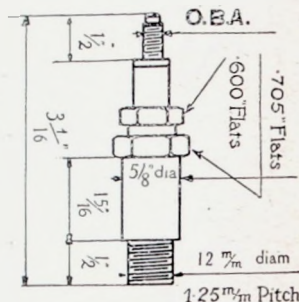
quired to set a battery-ignition 750 c.c. engine in motion is very small indeed.

If difficultly be experienced it should not be beyond the realms of possibility to design epicyclic gearing which would run the dynamotor at, say, 1½ times engine speed when it is being driven, and three or four times engine speed when it is driving. A gear of this type is already in existence either in Italy or France.

Whilst the magneto and dynamo makers do not appear to be alive to the needs of designers of small engines, no such charge can be levelled against the sparking-plug manufacturers, for both the Bosch and K.L.G. concerns are now making very small sparking-plugs.

For the benefit of those interested a dimensioned drawing of the latest K.L.G. product is published. It

Miniature plugs of the dimensions shown here are now being made for use in small engines. They are available in two types.



will be seen that the thread is only 12 mm. diameter, and the whole of the plug is proportionately smaller than the models now in common use. Two models are made at present—one suitable for ordinary touring and semi-sports engines and the other for sports and racing power units. H.J.

DRIVERS ONE MEETS.

BACK in the old days of motoring, the task of dividing drivers into classes did not exist, for in those days everyone who owned a car was simply a road-hog. Discrimination in that respect was not needed. You were either a normal being or—just a motorist! Now, with practically everyone a car owner, drivers are divided into classes. Of course, the cynical will say there are only two classes—those who drive and those who do not.

But have you ever thought of the different types?

In the first place we have the gear fiend. The gearbox to him is the holy of holies. The rest of the car doesn't matter. Observe the set expression with which he caresses the gear lever before he gently moves it into first. Then his expression changes to deep concentration as he prepares to change up to second. The same occurs as he goes from second to top. Once in top he sits back with the air of a man who has accomplished great things.

Then we have the technical demon. Usually we come across him badgering some inoffensive fellow whose car has unaccountably stopped.

He makes countless suggestions as to the cause of the trouble. He takes the plugs out, strips the mag., and at last, his rudimentary knowledge depleted, starts on technicalities. "Of course," he says, "it may be stripped timing, or a broken crankshaft—to say nothing of the camshaft being all over the place!"

Finally, when he has reduced his stock of technical

terms to a minimum and the poor owner to a state of hysteria, he discovers that the petrol tank is empty!

Another type often met is the syncopated signaller. No matter what emergency arises or whatever he is about to do, he always has a signal ready. For instance, if his car were about to blow up he would fling both arms above his head!

I have in mind a man who drives a car of doubtful make but definite age. He approaches a cross-roads in the busiest part of the town, where he intends to turn left. He signals his approach with loud horn-blowing and vigorous wavings of his right arm. The car is knocking and thumping its way along at a steady 6 m.p.h. in top gear, then, when he finally reaches the turn, he draws in his arm, puts his foot viciously on the accelerator, chokes his engine and holds up everybody whilst he clammers out and re-starts it.

Then we have the "man who expects too much." Usually he buys a mass-production car and expects a Rolls-Royce performance—and is disappointed because he does not get it.

Have you ever met a real budding mechanic? He knows the inside of his engine from A to Z—at least he has never seen it, but he has studied the diagram. He usually spends about two hours tinkering with it every Sunday morning, and never manages to do anything more drastic than take the plugs out and give them a wipe. C.E.T.M.

GETTING THE
BEST OUT OF A "SMALL
FOUR."

An article written especially for those who have
already acquired or who are thinking of purchasing
a modern light car with a small four-cylinder engine.

NEXT WEEK.

Order Your Copy in
Advance.



Major H. O. D. Segrave.

FREE-WHEEL DRIVE HAS COME TO STAY.

A VERY INTERESTING CONTRIBUTION ON A SUBJECT
WHICH IS CAUSING WIDESPREAD INVESTIGATION.

By MAJOR H. O. D. SEGRAVE.*

As a racing driver enjoying international recognition, and as the holder of the world's motor speed record, Major Segrave is well qualified to discuss motor car developments; in addition it is common knowledge that he is interested in one of the most promising types of free-wheel clutch. In the following article he answers criticisms put forward last week in this journal under the heading, "The Pros and Cons of Free-wheel Drive."

IT has long been realized by designers that the free-wheel clutch must constitute a very important step in the advancement of motorcar design, and in support of this the public has read from time to time descriptions of various forms of free-wheel clutch.

So far, broadly speaking, these have not met with the success that they may have deserved. This was not because the theory of a free-wheel clutch incorporated behind the gearbox was wrong, but because the particular designs did not happen to function with success, due in the majority of cases to rapid wearing of the mechanical parts at the point where the load was taken and due also to the load being concentrated on very few points at the circumference.

In view of this it is my own personal belief that the elementary crude ratchet type of free wheel, as at present visualized, will never meet with conspicuous success, owing to the impossibility of avoiding the concentration of the load at one or more points.

In my opinion the most interesting of the many free-wheel clutches yet produced, the one which holds the most promise and the one which is nearest fruition, is a British patented invention in which rollers, set on the skew, between specially formed races, give the required free-wheel action.

The interesting point about this clutch is that it is in direct contradiction to standard roller-bearing practice. When rollers are incorporated in roller bearings, and so on, the principal item to be considered is that the rollers must be placed at right angles to the direction of rotation. The idea of assembling them on the skew sounds absurd, but such is the arrangement in the clutch to which I refer, and, furthermore, it functions perfectly.

There are three main advantages to be considered in a car fitted with a free-wheel device, and the order in which these three advantages are placed depends on the type of car a man is driving. They are:—(1) Refinement in driving; (2) petrol consumption; (3) ease of gear-changing.

Eliminating the Overrun.

There is, however, a point—and by no means an inconsiderable one—that is not appreciated by an ordinary owner-driver; it is the desirability of completely eliminating the reversal of stresses when the car overruns the engine. This has a distinct bearing on the life of universal joints and other parts, and is a point which should be of great interest to the owner-driver as well as the designer.

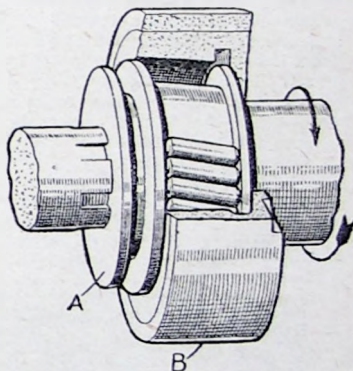
All three advantages mentioned above are unquestioned and many tests have been carried out already, proving that each of them constitutes in itself an important factor in favour of free-wheel clutches.

In one particular test of which I have first-hand knowledge and which was taken over a long journey on give-and-take roads, the petrol-saving figure was so high as 15 per cent. This in itself represents a fairly useful saving in £ s. d. in, say, a year's running and is of considerable importance to owners of fleets of commercial vehicles and buses.

It is considered that a specially strong form of braking would have to be provided where a free-wheel clutch is used, because, obviously, the engine cannot exert any retarding effect. I think that this is only one of the numerous arguments which one always encounters against a new device. If you will cast your mind back to the time when four-wheel brakes were first produced, you will remember that many people, and some of them should have known better, stated emphatically that these were useless, owing to the danger of locking the front wheels when cornering in wet weather.

Like all such arguments, it contains just that small amount of soundness that serves to gull the uninitiated, and the answer to it is that, even without the engine, modern brakes are strong enough to lock the road wheels when coasting in neutral; so it is fallacious.

Besides, for the benefit of those who wish to adhere to this argument, it should be pointed out that with one clutch there is a small lever, fitted either to the floor of the car or to the dash, by which it is possible to eliminate the free-wheel device at will, even when the car is in motion and thus turn it into a normal car again.



The Humfrey Sandberg clutch, showing the rollers by means of which a wedging action is obtained. (A) and (B) are the driving and driven members.

To revert to the question of free-wheel devices in existence at the moment, it would seem to me that a very good one is that in which the rollers are placed on the skew between two accurately generated conoids. By this means the torque is not taken at every engagement on the same limited number of points or lines, but at a greater number of full-line contacts around the circumference.

Again, as the rollers rotate, so the load is being taken at different places on the rollers and on the races with each operation of the clutch; therefore, it is reasonable to assume that this particular form of clutch has very big possibilities.

The greatest difficulty with which a novice is faced is that of gear-changing, and when a device is produced and incorporated in a car which almost completely eliminates this difficulty and makes gear-changing practically foolproof, it must of necessity be an important development, which must be considered seriously.

* In an interview with "The Light Car and Cyclecar."

Road Tests of 1927 Models.

The 10-25

THE LATEST PRODUCTION OF AN OLD-ESTABLISHED MOTOR MANUFACTURING CONCERN—A REALLY ROOMY AND COMFORTABLE ENCLOSED CAR CAPABLE OF A GOOD ALL-ROUND PERFORMANCE.

THE latest addition to the range of Rover cars—the new models are known as 10-25 h.p.—is a Weymann fabric saloon; the body is mounted on the improved chassis, full details of which were given in the issue of *The Light Car and Cyclecar* dated June 24th.

An important alteration lies in the transmission, the propeller shaft now being totally enclosed and having a centre bearing, in order to avoid any possibility of whip occurring when travelling at high speeds. The rear springs have been lengthened somewhat, while the brakes have been simplified considerably, both hand and foot controls now applying the same set of shoes in the rear drums.

Perhaps the most important alteration—and one which naturally improves the performance of the car—is the increased bore of the cylinders. The dimensions of the engine are now 63 mm. by 95 mm., which brings the capacity up to 1,185 c.c. and the R.A.C. rating to 9.8 h.p. Certain minor refinements have been introduced, all of which tend to make a sweeter-running power unit.

A glimpse of the interior: comfortable, weatherproof and generously equipped

rear seats. The interior furnishing reveals good taste, the upholstery being in first-grade leather, while the roof is lined with cloth to tone in colour with both the interior leather and the exterior fabric. The fascia-board is in polished mahogany and the majority of the fittings are nickel-plated. The generous equipment of this model includes a Lucas electric starter and five-lamp dynamo lighting set, speedometer, clock, spare wheel and tyre, suction-operated windscreen wiper, electric horn and the usual kit of tools.

The overall dimensions are:—Length, 12 ft. 8 ins.; width, 5 ft. 1 in.; height, 5 ft. 9 ins.; while to give some idea of the room provided for the passengers it might be mentioned that the width of the front seat is no less than 48 ins. The rear-seat cushion, however, is not quite so wide, as the wheel-arches have to be accommodated; the "shoulder room" provided by the exceptionally wide body, however, is a distinct advantage.

The controls come easily to the hands and feet, the pedals being situated sufficiently far apart to avoid interference with one another, while the steering wheel lies in a natural position and the gear lever can be reached without leaning forward unduly.

The clutch is light but positive—a combination that enables one to start away from rest and change gear with a minimum of effort. As an experiment, we made

The new "10-25" saloon complete with Weymann body and numerous other refinements.

The roominess of the new and very striking Weymann saloon is not apparent at first sight, as the car has a very neat and compact appearance, but closer investigation shows that it boasts not only of ample accommodation but of real comfort.

The four doors are very wide—26 ins., to be precise—thus affording easy ingress or egress to both front and

a restart on a slight uphill grade, using top gear only. This, of course, is not to be recommended, but it is a practical—if rather brutal—way of discovering any chassis defect, however slight. The Rover picked up its load easily and without sign of jar or snatch, while the clutch did not have to be slipped excessively.

When the speed of the car on the indirect ratios is kept within reasonable limits, very quick upward changes can be made, and even when the engine is speeded up to something approaching its maximum revs. unduly long pauses in neutral before striking the higher gear are not required.

Thanks to the large radiator and the efficient water pump, overheating need not enter into the calculations of a Rover Ten driver. In second gear, for instance,

was held over the last 70 yards or 80 yards of the climb—a very satisfactory performance. On second gear on the same hill the brow was surmounted at 23 m.p.h.

The brakes, too, call for comment. On dry tar macadam it is practically impossible to provoke a skid, no matter how harshly the pedal is applied, while on wet roads only the very harshest treatment can make the car deviate from a straight line. The stopping distances are quite satisfactory, 100 ft. sufficing to pull the car up from 40 m.p.h. and 22 ft. from 20 m.p.h. On a downward grade of 1 in 10 we were able to pull up quite easily from 30 m.p.h. in 25 yards, using the pedal; using the hand lever only, the stopping distance was not quite so short, but the retardation was, nevertheless noticeably good.

A Step Forward.

We can confidently recommend the 10-25 h.p. Rover Weymann saloon as a car capable of really serious work. It has a distinctly good performance, the body is free from annoying rattles and squeaks and the flexible suspension provides comfortable travel over rough roads. The price of the car complete is £250.

In the new 10-25 h.p. models the Rover Co. has certainly approached one step nearer the ideal aimed at by designers of small four-cylinder cars. Ten years ago it would have been considered almost impossible for an engine with a capacity of only 1.185 c.c. to deal satisfactorily with a full four-seater saloon body and its complement of passengers. Pioneers of economical motoring, however, it is not surprising to find that the Rover Co. has successfully surmounted difficulties which, inevitably, were encountered, and that they have evolved a chassis capable of meeting the demands made upon it with ease and that element of responsiveness expected of modern productions.

Naturally, due regard has been paid to the question of weight. This is exemplified in the saloon by the very attractive Weymann body; but it cannot be said that comfort has been sacrificed in interior finishing, equipment and so on, to attain this end. On the contrary, the general equipment is beyond reproach, and the tout ensemble strikes a dignified as well as a thoroughly pleasing note.

The 10-25 h.p. Rover, whether as a saloon or an "open" tourer, should make a wide appeal to a class of motorist which is rapidly growing and which is revealing a decided penchant for cars of this type.

Although of larger capacity the engine bears a close resemblance to the 9-20 h.p. model: the accessible oil filler is a useful point. The new model retains the very useful combined spare-wheel carrier and luggage grid. Rear-seat comfort is exemplified in the bottom photograph. Note the ample amount of headroom.

one can carry on with foot hard down and, if it comes to the question of a long, fast climb, the engine remains as fresh at the top of the hill as it was at the bottom. The engine also has the advantage of being able to hang on to top gear in a most convincing manner.

This was emphasized by a test we made on Stoneleigh Hill (on the Coventry-Leamington road). The incline is about 400 yards long and is approached by a sharp right-hand turn at the foot, the gradient gradually increasing in severity up to a maximum of about 1 in 9 at the top of the hill. This, of course, imposes a very difficult condition for a top-gear climb.

Rounding the corner at the bottom at about 12 m.p.h. the accelerator was pressed hard down, when the speedometer recorded a maximum of 25 m.p.h. in a very short distance. The speed gradually dropped, of course, until it reached a minimum of 12 m.p.h., which

Road Tests of 1927 Models.

THE 10-30 H.P. SPORTS MODEL O.M.

AN EXPENSIVE LIGHT CAR WHICH
SHOULD APPEAL TO THE MAN WHO
WANTS, AND IS PREPARED TO PAY
FOR, THE BEST.

FIVE hundred and fifty pounds is a high price for a sports car of the 1,500 c.c. class, no matter how luxurious it may be, and the number of such cars offered to the public in this country is small. We were particularly interested, therefore, to have the opportunity—provided by L. C. Rawlence and Co., Ltd., 39, Sackville Street, London, W.1, sole concessionnaires in this country—of testing such a car and of forming a first-hand opinion of the value offered.

Our first impressions of the O.M. were distinctly favourable. We liked the graceful, clean-cut lines of the bodywork—which, by the way, is of English manufacture—whilst the general equipment and the comfort of the luxuriously upholstered seats did not escape our notice.

The engine, of the four-cylinder type, has side-by-side valves, a three-bearing crankshaft and no unconventional features. The clutch, which we found to be very smooth in action, is of the single, dry-plate pattern, and final drive is by spiral bevel.

The arrangement of the controls is well thought out even to the smallest detail. The starter button, for instance, which works through a relay, is about the size of an ordinary domestic bell-push; by a simple twist of the knurled head of the very substantial hand-brake lever, the ratchet mechanism is thrown entirely out of gear. Small points of this kind please the fastidious driver.

Making our way in heavy rain out into the wilder parts of Surrey, we found that the car held the road in a reassuring manner. If the brakes had to be applied quite forcibly the O.M. would not deviate from a straight course, despite the greasy state of the roads, even though there were no rear-seat passengers; in

THE CAR IN DETAIL.

(Above) A view of the cockpit, showing the controls, three-panel windscreen, dash ventilators and so on. (Left) The engine, a feature of which is the excellent head of water from the top water lead to the radiator. (Below) A photograph which strikingly portrays the business-like lines of the O.M. when viewed from the front.

fact, the brakes appeared to be unusually efficient all round.

The car tested had run some 9,000 miles, but we could detect few signs of wear. The steering was finger-light and there was no noticeable backlash, whilst even at high speeds mechanical noises appeared to be non-existent. In the course of our test we had the engine turning over on occasions at nearly 5,000 r.p.m., and throughout the range the engine revealed no "period." The impression we gained was that the car, like Kipling's ship, had "found itself."

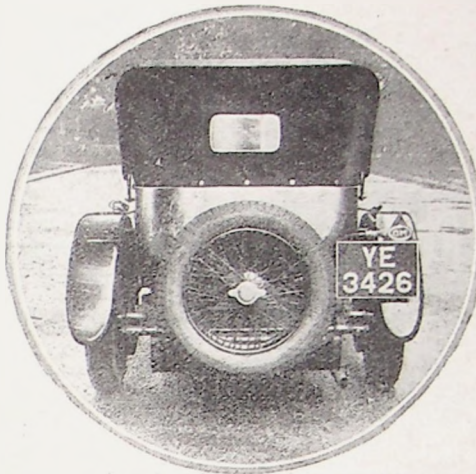
The gear ratios are 5.2, 7.2, 11.7 and 18.2 to 1 respectively. These, it will be noticed, are in keeping more with British than with

Continental practice, so far as sports cars are concerned. With an engine capable of turning over at really high speeds, a very lively road performance might reasonably be expected, and this we found to be the case. Wray Lane, Reigate, for example, was easily negotiated on third gear. About 50 m.p.h. was maintained on the lower stretches, on which the car cornered splendidly, whilst even on the 150 yards or so of 1 in 5½ at the top the speed fell only to about 30 m.p.h.

Reigate Hill was then descended, but an ordinary main-road gradient of this description provides little useful information regarding brakes. Along the main road to Dorking it was possible to open out somewhat, although not to the full extent of the distinctly rapid paces of the car. At 60 m.p.h. there appeared to be practically no more noise or vibration than at 20 m.p.h.

Proceeding up Box Hill by the "zigzag," we found that the steering lock was ample. Negotiating the first of the bends at over 30 m.p.h. in second gear, we failed to appreciate the extent of the lock, and nearly hit the inner banking. On the straight portions of the climb the car easily maintained 45 m.p.h. or so in third gear with ample power in hand.

Pebblecombe provided an opportunity for testing the brakes, and we found that they easily pulled the car up on even the steepest portion of the descent. The ascents of Rammoor and White Downs presented no



A rear view with the hood erected. The petrol tank is slung at the back and holds 12 gallons.

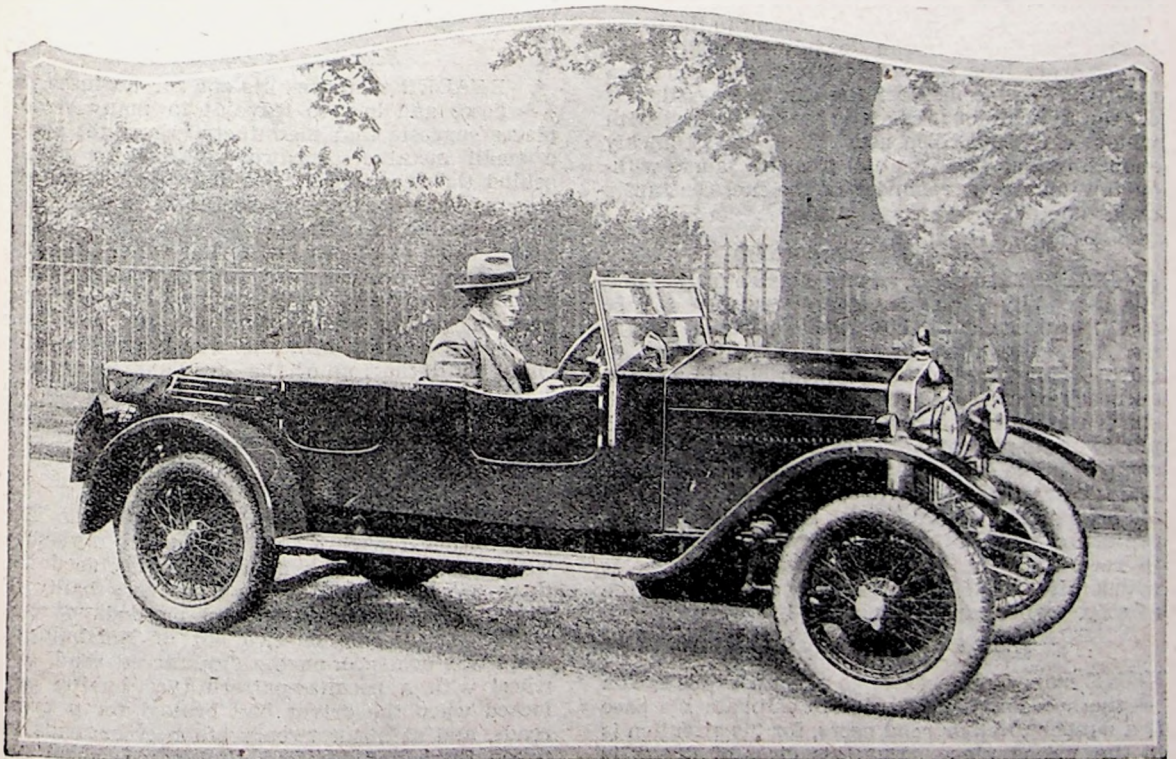
difficulty. On the latter the performance was particularly good; negotiating the sharp right-hand turn at the bottom at a steady 20 m.p.h. or so in second, the car accelerated rapidly to over 30 m.p.h., and easily maintained this up to the summit.

Along the narrow and rough lanes leading from the summit of White Downs, we deliberately kept going at a brisk pace to obtain some idea of how the springing would stand up to harsh treatment. We found that the long half-elliptics were as efficient as their appearance was reassuring, while the shock absorbers appeared to do their work in a very satisfactory manner; even deep gullies and holes hit with a bang failed to make much impression on the behaviour of the car, which merely swayed somewhat, after

the manner of a well-sprung vehicle of double the weight.

The bodywork, too, seemed to be singularly free from squeaks or rattles of any kind. In fact, the negotiation of this short "colonial" section satisfied us that the O.M. is an excellent car for the reliability trials enthusiast, as it is difficult to imagine that even prolonged rough treatment would result in loosened wings or in squeaks or rattles of any kind.

We returned the O.M. convinced; it is an expensive car, but it is a good one, with a distinctly lively performance and many refinements. It is an attractive proposition for the man who wants the best.



A SPORTS CAR
OF PLEASING LINES.

The English bodywork fitted has attractive lines and provides ample room for both driver and passengers. The car, as tested, weighed 21 cwt. and easily attained over 60 m.p.h. on the road with a top gear of 5.2.



Light Car Comment and Advice. By "Focus."

Why a Clock?—

AT the risk of being overwhelmed with an avalanche of replies, may I ask, with the utmost amity, why the average pleasure motorist needs a clock? To start with, most men have a watch, and when they are on their week-end or evening runs there can surely be no reason why they should have the exact hour and minute always before them. Again, most village churches have a clock; they abound in towns, and if anyone had real need to know the time and his own watch had stopped almost the first pedestrian would tell him. Therefore I ask, why a clock?

This accessory must add something to the price. It is often allowed to run down, and should it get out of order it is frequently left in that condition until the time comes for the car to be sold. Of all the fitments of a car it is easily the first with which we could dispense. Time flies quickly enough on our holidays and pleasure jaunts without our having a reminder of the fact constantly under our nose.

—And Why a Speedo?

GREATLY daring, I might go a step farther and ask: Why a speedometer? This is a very useful instrument to those whose business it is to test the capabilities of cars, but—tell it not in Gath—their first business is invariably to test the accuracy of the speedometer. Without wishing to shock the faith of unsophisticated readers in the purity of purpose of motor manufacturers, candour compels me to state that all speedometers are not, like Caesar's wife, above suspicion. Not that their manufacture is at fault; but they are dumb, unprotesting servants and record what they are set to record. But this by the way. The point which interests us is how far they are useful to the average owner after the novelty has worn off.

Useful Mileage Recorders.

THE man who needs to go along with his eye on the speedometer in order to estimate his pace is a danger to other road users, for his attention is in the wrong place. But this class of driver is very much in the minority, for most of us drive at a speed which we feel is safe without consulting the instrument at all. And here, again, if the

gadget goes wrong owners reveal a disinclination to remove it or the driving mechanism for repairs. The number of cars I have seen with either the clock or the speedometer or both not working reveals their true value to owners who have no need to depend on them, and I do not suppose they would pay for them as "extras" on another car.

A mileage recorder is quite a different matter for, intelligently used, this can become a veritable "secretary" to the owner, giving him all manner of information regarding fuel and oil consumption, tyre wear, lubrication, periods between decarbonization and other details vital to the efficient running and maintenance of a car.

Scotches in Demand.

A READER who uses his car for business purposes and has to leave it in many strange places suggests that manufacturers might supply a small metal or hardwood wedge for placing behind the rear wheel. He has one on his own car and finds it extremely useful when the vehicle has to be left on a slope.

One value of the wedge is that when the car is jacked up it prevents any rolling, and my correspondent says he has also employed it to good purpose in getting away after the car has been stalled on a steep hill, the wedge trailing on a chain until the top of the gradient is reached. The idea has much to commend it for, usually, when one needs a scotch that "large stone" which our mentors envisage is not so easily found.

F.W.B. Compensation.

WHILST driving from Northampton to Bedford last week I felt in complete agreement with "Marmaduke," who recently declared that there are many cars which have very badly designed brake adjustments and methods of compensation. A mile or two out of Northampton there was evidence, on the dry, tarred road, of a wheel with a peculiar-pattern tyre having been locked when the driver had braked for a cross-roads, and at about twenty other cross-roads between there and Bedford that same wheel had been locked.

I wondered at the time whether the driver was aware of the rubber with which he was paving

the King's highway, and also whether it was his fault or that of the designer of the brake gear. I met him later at a hotel in Bedford, just starting out again after having stopped for tea, and had a word with him on the subject. The car was a big American six-cylinder model, and he told me that he had no idea that one of the wheels was locking every time he braked, which rather goes to show that, although badly designed brake gear is expensive in tyres, it cannot be particularly dangerous if its effect on the car is so small that the driver can be unaware of its misdeemeanours.

Adjusting Front-wheel Brakes.

DURING lunch at an hotel in the Midlands the other day, I fell into conversation with a stranger who had driven into the hotel yard just as I was getting out of my car, and the subject of adjusting front-wheel brakes cropped up.

"Personally I don't find it any trouble to keep my brakes in adjustment," he remarked. "There has been a lot of correspondence in *The Light Car and Cyclecar* about the difficulty of getting equal pressure on each wheel, but I cannot really understand where the trouble comes in. Of course, if you go to the trouble of jacking up each wheel when adjusting the brakes you will find it a long job."

I asked him how he managed to obtain proper adjustment without jacking up the car. He explained that quite near his home is a long steep hill which he has occasion to descend about once

a month. The brakes of his car are arranged like many others, the pedal applying all four, whilst a hand lever controls those on the rear wheels. When going down this hill he uses the foot brake and pulls up at the bottom and feels each brake drum in turn. If one is distinctly cooler than the rest it means that that particular brake is not doing its fair share, whilst an unduly hot drum is clearly getting too much pressure.

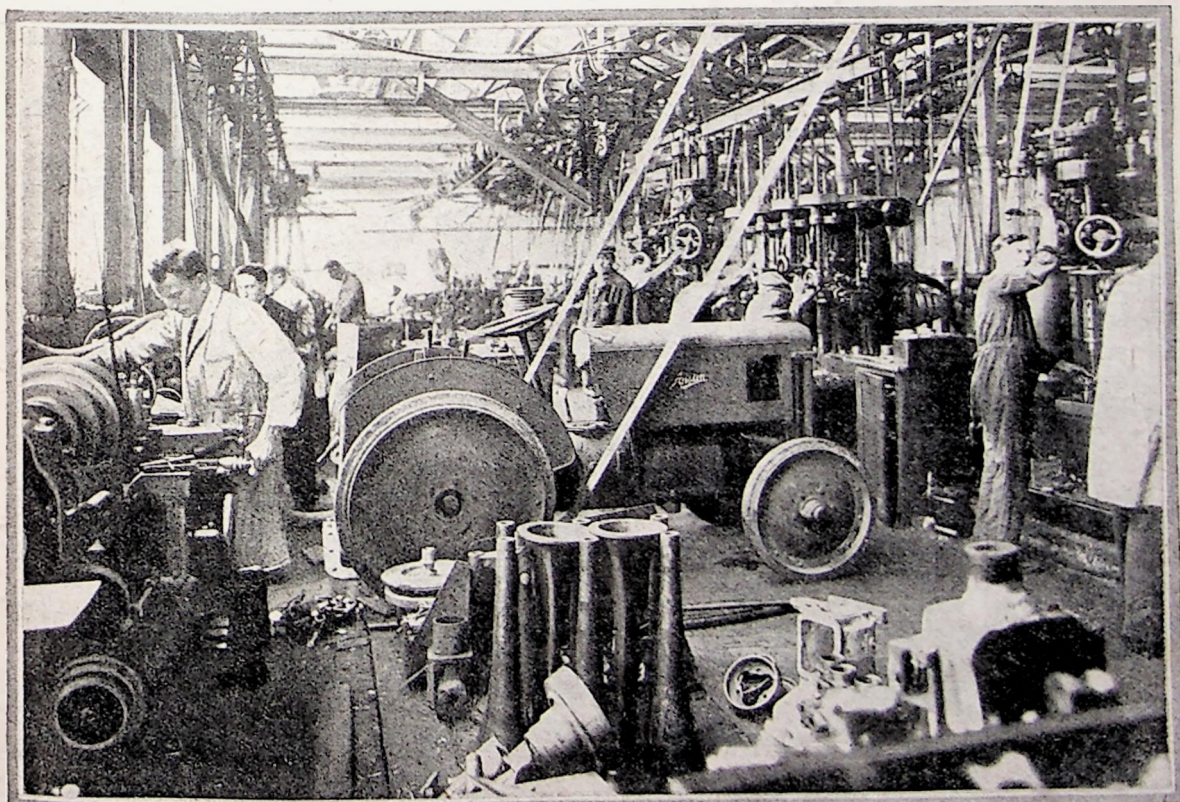
When Being Overtaken.

UNLESS the road is straight I always hesitate to accept the signal of a driver ahead who waves me on. He may be able to see farther round a bend; on the other hand, he may not, and it is risking a smash to act on supposition. It would be very useful in such cases if drivers who did know that the road so far as they could see was clear would momentarily slow down when they made the signal to overtake, thus minimizing the possibility of trouble.

It is a practice I have observed for several years now and from acknowledgments made I know it is appreciated. Unfortunately, I do not often receive such treatment myself. More frequently I find that a driver will wave me on and then maintain, or even increase, his own speed.

How Accidents Happen.

THIS brings me to an instance of an accident which occurred through this cause in the Home Counties a few days ago. Hearing the sound of



REPRODUCING
THEIR SPECIES.

When the Austin works were flooded recently and the power plant put out of action Austin tractors were called into service to provide power for the machine shops.

a horn behind him the driver of a car pulled over to the left and gave the signal to overtake. Some distance ahead there was a bend, but the first man could see some way round it and repeated the signal. The second driver accepted it, but evidently had a difficulty in overtaking in time, for they took the curve together.

The road bore to the right and they saw too late that just round on the inside of the curve was the mouth of a lane and coming out of it a farmer's trap. To avoid the horse the overtaking driver swerved; and immediately the cars collided. Both went into the hedge, and although the drivers and occupants escaped with minor injuries the cars were extensively damaged. Now, had the first driver decelerated when making the signal the probability is that the smash would not have occurred, although strictly speaking, of course, it was the fault of the overtaking driver.

Dangerous Bridges.

MY recent paragraph complaining of rough stretches of loose road material being left unlighted at night by road repairers brings me a letter from a reader who points out that railway bridges often form a similar trap. In most cases, he says, these bridges are the property of the railway company, which is responsible for keeping them in repair. As a result the approaches to the bridges may be perfectly smooth, whilst the bridge itself may be in a very rough state.

I certainly think something might be done to place warning notices at spots of this kind until the road can be properly repaired.

Witching Waves at Thorney.

CAR-OWNERS going to the East Coast through Peterborough and Wisbech, or vice versa, would be well advised to be on the look out for an extraordinary series of "witching waves" in the

surface of the road each side of Thorney. These humps and hollows stretch right across the road. They are of really startling dimensions, and the trouble is that, being on a tarred road, they cannot be seen until one is upon them.

The waves occur on a section of road which, being dead straight and geographically flat, invites speed. The effect of hitting them at anything above the legal limit is almost alarming, and I have heard instances of people in saloons receiving a painful jar through their heads being brought into contact with the roof. In another case a child in a sidecar was actually thrown out.

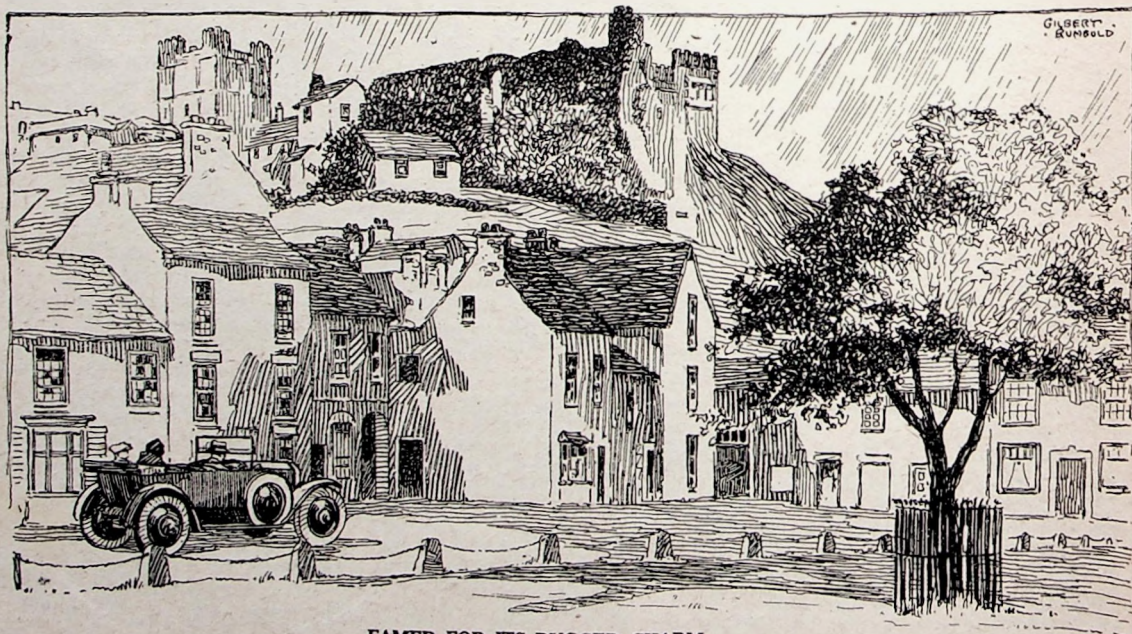
The cause of this peculiar formation (or deformation) is obscure, but it appears that a number of culverts run under the road and the surface between has subsided. Whatever the reason, the effect is decidedly unpleasant, and it is surprising that more serious accidents have not occurred.

Nasty Moments for Novices.

A CAR-OWNER who is in the middle of his first season confesses to having anxious moments after passing big lorries through the temporary reluctance of his rear wheels to come up the camber, thus producing a semblance of a skid.

This is a possibility to be guarded against, especially if the camber on the right is steep and—as frequently happens—is covered with sand or dust which has collected there after tarring operations. Big vehicles are very prone to be affected by this pull of the camber, and I have seen buses and lorries coming crab-wise towards me in a very alarming manner.

A safe plan which is followed instinctively by experienced drivers is not to attempt to get back on the crown of the road too quickly after overtaking, but to steer at a smaller angle. The car will then bring itself off the slope quite satisfactorily.



FAMED FOR ITS RUGGED CHARM.

Richmond Castle, in the heart of an attractive motoring centre in Yorkshire, towers above the River Swale. It was built in the 11th century.

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The Light Car and Cyclecar

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

NO CAR WITH AN ENGINE CAPACITY
EXCEEDING 1,500 C.C. (11 LITRES) COMES
WITHIN THE SCOPE OF THIS JOURNAL,
THAT CAPACITY BEING GENERALLY
RECOGNISED AND ACCEPTED AS THE
LIMIT FOR A LIGHT CAR ENGINE.

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Bumpers.

THE standardization of dimensions for bumpers by the standards department of the Society of Motor Manufacturers and Traders is a particularly welcome move. Important as standardization is in every branch of motor engineering, it is nowhere more so than in the case of bumpers. for, as we pointed out so far back as November, 1925, these fittings, to be of any real use, must be an equal height from the ground on every vehicle. Admittedly, without standardization of height, bumpers are of some value for protecting the wings and so forth when a car is being manoeuvred in a confined space, but we think it no exaggeration to state that of those who go to the expense of fitting them, 75 per cent. do so to protect themselves from "the other fellow's" carelessness in traffic. The importance of having a standard height is therefore obvious.

Light car owners are affected more than other motorists, however, for with the double or triple-bar bumpers usually fitted to large cars a small difference in height is of little importance, as the depth of the face is perhaps 8 ins. or more. Light cars, on the other hand, are usually equipped with fenders of the single-bar type to avoid unnecessary weight, and with these a variation in height of 3 ins. may make all the difference—when two cars so fitted collide—between serious damage to the car or a bent bar which could be easily straightened. The increased value of bumpers as a protection which will result from standardization of height is likely to be followed by a corresponding increase in their popularity.

What They Save.

IN this country bumpers do not seem to have "caught on" as quickly as they deserve, but we feel that their universal adoption will come in time. In America, of course, their advantages were soon realized, and to-day they form part of the standard equipment of practically every American car.

Many English motorists object to them on the score of appearance, but in car design it is, after all, more what one is used to than aesthetic considerations which counts, and it is quite likely that those who dislike fenders to-day will, in a few years' time, consider that a car looks unfinished without them. Some motorists, again,

think that the fitting of bumpers reflects upon their driving ability. Why this is so it is difficult to understand, for they are merely a protection, and no one scorns protective devices in other spheres. We fit locks to our doors to keep out thieves, and it is quite as logical to fit bumpers to prevent damage to our cars. That they do effect a considerable saving of both money and trouble—at least, for those who frequently drive in dense

traffic—cannot be denied. They are frequently the means of saving a "no-claim" bonus on an insurance policy, whilst the inconvenience of having a car in dock for repairs after a minor accident is also saved. If further proof of the usefulness of bumpers were needed we have only to point out that some insurance companies offer a reduction of 10 per cent. on the premium of cars fitted with models of an approved type.

The Two-cylinder Light Car.

WITH the striking example of one or two individual makers of small four-cylinder cars in front of them, it is surprising that manufacturers do not give greater attention to a market which is rapidly growing, and which promises to be one of the most important in the not-too-distant future. The actual need is for a small vehicle built not necessarily on big-car lines, economical to run, speedy, comfortable and selling at a price which will compare favourably with the better-known makes of motorcycle and sidecar. Four cylinders need not be a *sine qua non*—witness the continued popularity of three-wheeled cyclecars with two-cylinder engines.

It is easy to discern that the demand comes from those who want a step up between the motorcycle and the light car, but their requirements are not met by anything that looks unconventional or gives them less speedy travel, and the advantages of four wheels over two must be such that there is ample compensation for the increased tax and, perhaps, slightly higher running costs. We maintain that there is plenty of room on the market not only for small four-cylinder cars and three-wheeled cyclecars, but for well-designed two-cylinder runabouts on four wheels, and once again we venture to bring the possibilities of this type to the notice of designers who are looking for fresh fields to conquer.

Topics of the Day



A STRIKINGLY UNCONVENTIONAL VEHICLE WHICH WILL PROBABLY BE PLACED ON THE ENGLISH MARKET—CAR-LIKE COMFORT ON TWO WHEELS.

AN opportunity was afforded me recently to examine the highly unconventional vehicle illustrated on this page. I use the word "vehicle" as it is rather difficult to know whether to call it a cyclecar or a motorcycle. When at rest and on starting away it is unquestionably a four-wheeled cyclecar—somewhat unorthodox, perhaps, but, nevertheless, a cyclecar; so soon as it gathers speed, however, hey presto! up come the two side wheels and it is transformed into a motorcycle. Similarly, in thick traffic, it is alternately a motorcycle and a cyclecar!

From the point of view of comfort, weather protection and seating position, it leaves no doubt as to its identity; in fact, the only justification for regarding it as a motorcycle is that, when travelling normally, it runs on only two wheels. How the registration authorities regard it for taxation purposes I do not know, but in my opinion its essential characteristics are those of a cyclecar, and there is every reason to consider it as such.

Its conception is by no means new, for it has been marketed on the Continent, where it is known as the Morgan Monotrace, for some considerable time. So far as I am aware, however, the model shown on these pages is the only one at present in England. The makers hope to place it on the market over here, and there is a possibility of it being actually manufactured in this country.

Having once rid one's mind of conventional body lines, its appearance is not displeasing. The panels are covered with leather cloth and edged with aluminium beading, whilst the

The unorthodox vehicle described on this page; it normally runs on two wheels (as shown in the lower photograph), the small steady wheels being used only when at rest and when travelling very slowly.

sides of the body taper to meet the plated radiator at the front and are curved round to a point at the rear. A celluloid Vee screen is mounted on the scuttle just behind the radiator, and the hood is after the style of those usually fitted to Continental sports cars, being supported at the front by a T-piece fitting into a socket in the scuttle. The body is a two-seater, the passengers being accommodated tandem fashion. Only one door is provided, but access to the rear seat is obtained quite easily by tilting forward the driver's seat.

As might be expected, the mechanical features of the cyclecar are somewhat unconventional. The power unit, which is situated at the rear, is of the single-cylinder, side-valve type, having a bore and stroke of 84 mm. and 90 mm, giving a capacity of 493 c.c. The cylinder is mounted horizontally—the head is at the forward end—and is water-cooled, the inlet and exit pipes to the radiator being led along opposite sides of the machine to the radiator, which, as previously mentioned, occupies the conventional position at the front. The three-speed gearbox is built in unit with the engine, final drive being by a single chain to the rear wheel.

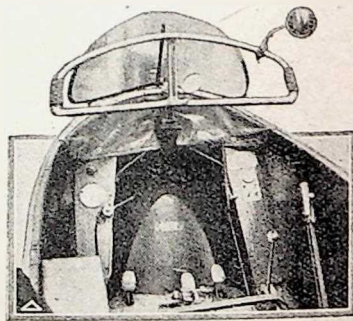
A Marelli magneto and Cozette carburetter are employed. Starting is effected by a conveniently placed kick-starter just behind the off-side

steady wheel. The rear suspension is by means of quarter-elliptic springs splayed inwards to the rear wheel, which is carried on substantial channel-section fork members, whilst the front wheel is mounted on spring forks of the motorcycle type, steering, of course, being direct.

Both brakes take effect on the same drum, the pedal operating internal-expanding shoes, whilst the hand lever controls an external-contracting band. The clutch is of the dry-disc type.

As one of the accompanying photographs shows, the controls, with two exceptions, follow normal car practice. The steering is similar to that of a motorcycle, except that neither a handlebar nor a wheel, but a combination of the two, is fitted. The other difference from orthodox controls is the addition of a stout lever on the driver's right, which controls the steady wheels.

I had a short trip as a passenger in the cyclecar and the run proved very interesting. When the machine is at rest the steady wheels are in their lowest position and keep the vehicle upright, but so soon as it has reached about 5 m.p.h. the driver pushes forward the controlling lever and they are raised, the cyclecar then being balanced by the driver. The driver's actions really correspond with those of a motocyclist, except that he occupies a comfort-



A view of the controls, which follow car practice; the driver's seat was removed when the photograph was taken.

able seat and, instead of using his feet to steady the machine when travelling slowly or at rest, he employs the small steady wheels.

The way in which the vehicle was able to slip through traffic surprised me, whilst the space needed to turn it round proved truly remarkable; with the steady wheels down it could literally be turned in its own length. The comfort, too, exceeded my expectations, although the sensation when cornering is distinctly quaint until one becomes used to it. Incidentally, there is no danger of the machine falling over if it skids, as the steady wheels would support it before it reached a dangerous angle.

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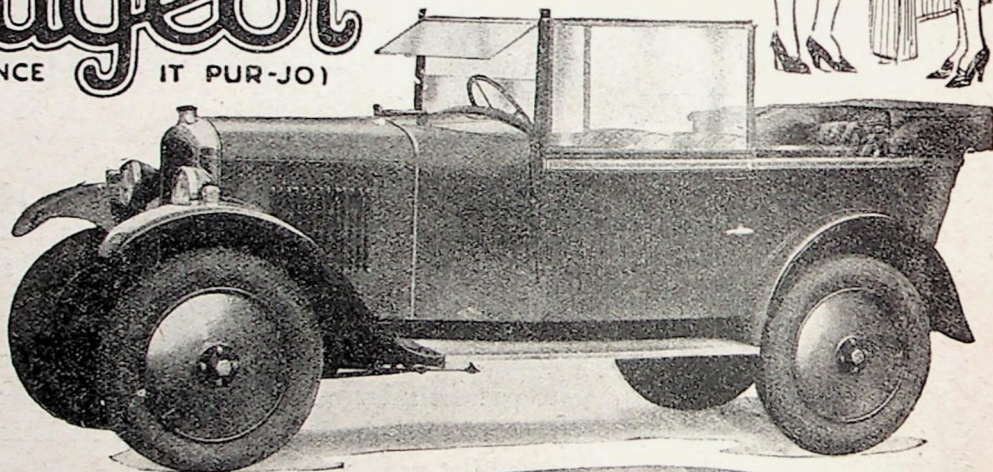
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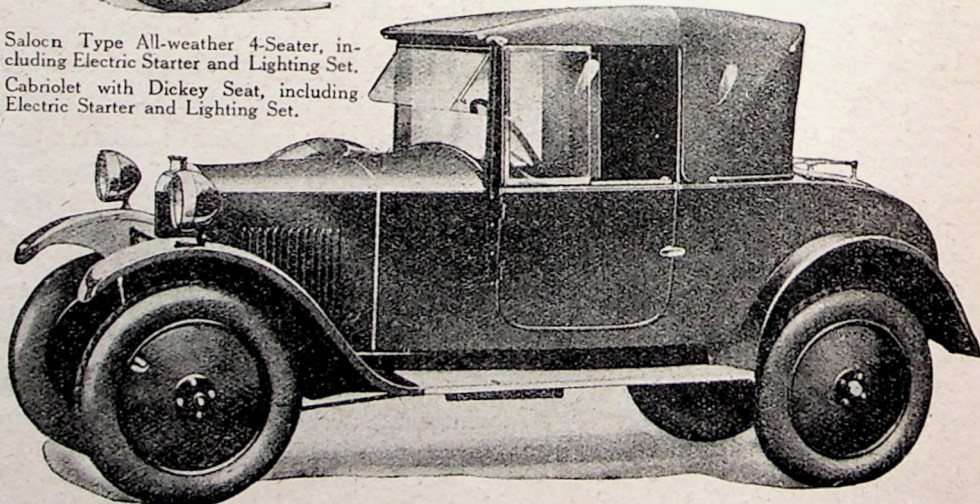
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TO THE READER.—By mentioning "The Light Car and Cyclecar" when replying to advertisements, the progress of the small car movement will be assisted.



The World of Sport.

SMALL CARS OUTPACED AT ST. BRIEUC.

FLORIO CUP REGULATIONS PROVE DISAPPOINTING—URRY'S PET ACCOUNTS FOR FAILURES IN 24-HOUR TRIAL—HIGH SPEEDS AT COLWYN BAY.



THE FLORIO CUP RACE.

SMALL cars were much in evidence at Saint Brieuc on Sunday last, when the Florio Cup Race was run off.

The regulations for this year's race, whereby marks were awarded for a combination of speed and regularity of running, did not prove altogether satisfactory, either from the drivers' point of view or that of the spectators, and it was announced at the close that the formula would be altered for next year's event.

The regularity clause meant that no one could really drive "all out" and retain a chance of winning the cup. A driver might win his particular category, as speed alone counted for this, but that was as far as he could get. As a result, drivers who exceeded a pre-arranged speed limit were continually being flagged to a standstill by their supporters and allowed to proceed again only when the requisite number of seconds had elapsed.

Weird and peculiar private controls were arranged for this purpose by the pit teams. In one case a flag was poked out from the upper windows of a cottage, on the end of a long fishing-rod. This kind of thing did not appeal much to the public and a good deal of jeering resulted. Incidentally, the crowd was enormous; it was generally considered to be the largest seen at a road race in recent years.

Out of 22 starters, 12 were in the light car classes and all but one of these in the 1,100 c.c. class. Sabipa (Bugatti) was the only starter in the 1,500 c.c. category. He made best time of the day for all cars and was placed fourth in classification for the cup.

The Florio Cup was won by Laly (three-litre Ariès) with 55 marks. Wagner (Pougeot) was second with 63 marks and Etancelin (Bugatti) third with 98 marks. All, of course, are penalty marks. Sabipa covered the 402 kilometres in 3 hrs. 53 mins. 51 secs., an average speed of 63.391 m.p.h.

The results in the 1,100 c.c. category were as follow:—1st, Masse (Salmson), 4 hrs. 21 mins. 5 secs., average speed 57.523 m.p.h.; 2nd, Gregoire (Tracta), 4 hrs. 29 mins. 47 secs.; 3rd, Violette Morris (B.N.C.), 4 hrs. 39 mins. 5 secs.

A serious accident happened in the sixth lap, when Laval (Salmson) overturned, after a series of violent skids in front of the grand-stand. Lambert, following a few yards behind in a Bugatti, avoided the wildly gyrating car by a miracle. Laval was rather badly hurt.

With the curious regularity and speed formula in force, there were no really exciting struggles for position during the race, and at the 15th lap (half-time) many of the drivers had only the haziest idea as to how they stood.

The little front-wheel-drive Tracta cars ran with splendid regularity and enhanced the good impression which they made at Le Mans in the Rudge-Whitworth Cup Race. The new four-wheeled D'Yrsan car, driven by Mottet, made an excellent debut and ran throughout the race with no pit stops beyond the necessary ones for petrol and oil.

Madame Violette Morris (B.N.C.) again proved herself a racing driver of the first quality. Pousse, another B.N.C. driver, showed remarkable coolness in the eighth lap. Taking a difficult hair-pin corner rather too fast, he crashed into the railings and tore them down for several yards. He managed to get his car back on to the road and continued the race without stopping.

M.C. AND A.C. 24-HOUR TRIAL.

IN the Birmingham-Holyhead-Birmingham 24-hour trial, organized on July 15th and 16th by the Midland C. and A.C., there were 58 competitors, including three Morgans driven by G. H. Goodall, H. F. S. Morgan and J. C. Chippendale, and a Sénéchal driven by J. H. Gem.

The run out to Holyhead was over main roads and the night was fine, if a trifle chilly. On the return route a number of difficult hills were encountered, the worst being the notorious Urry's Pet, at Harlech.

IN THE 24-HOUR TRIAL. J. H. Gem (Senechal), one of the few car competitors, beginning the climb out of Harlech.

Only three passenger machines succeeded in climbing this non-stop, amongst them being J. C. Chippendale's Morgan. On the timed section of Bwlch-y-Groes, H. F. S. Morgan (1,096 Morgan) took 69 seconds, which was one second faster than the fastest sidecar combination.

Thanks to the fine weather the hills were dry and, with the exception of Urry's Pet, caused very little trouble, although an unobserved colonial section over the Long Mountain, between Welshpool and Shrewsbury, was rough and trying for passenger vehicles.

(Results will be found under Club Items.)

COLWYN BAY SPEED TRIALS.

GLORIOUS weather for once favoured the Liverpool Club's annual speed event along the Colwyn Bay promenade and a large crowd of holiday-makers crowded the entire length of the front.

B. H. Davenport (Frazer-Nash) was not quite so successful as usual, being beaten for the fastest-car speed by Raymond Mays's two-litre super-charged Mercedes. Davenport experienced several small troubles, on one occasion a chain coming adrift. Mrs. A. M. Pemberton, however, in another Frazer-Nash, won several awards. Although a number of Austin Sevens were entered, both in the standard and racing classes, none of them put in an appearance, and H. C. Aibino and H. C. Lones's Morgans were somewhat outclassed by the side-cars.

Among the entrants was "Pa" Cowley, who has figured so successfully in the past on motorcycles, driving a 1,099 c.c. Amilear; he was not, however, quite good enough to figure

among the winners. E. L. F. Mucklow (1,098 c.c. G.N.), as expected, made the fastest time in the 1,100 c.c. class.

The course, which was on the bumpy side in places, was a standing half-mile for the car classes; the three-wheeled cyclecars covering a standing kilometre.

No serious accidents occurred and the organization throughout was good. The event created considerable local interest and the crowd were thoroughly entertained—a happy augury for future events at this popular watering place.

(Results will be found under Club Items.)

The World of Sport (contd.).

A NOVEL BROOKLANDS MEETING.

PRAISEWORTHY ENDEAVOUR TO FIND OUT WHAT THE PUBLIC REALLY WANTS—RACING ROUND "THE ISLAND"—PURDY HAS A NARROW ESCAPE IN A THOMAS SPECIAL.

FINE weather but a poor attendance marked the opening of *The Sporting Life* meeting last Saturday. The programme had been arranged on somewhat novel lines and gave promise of an interesting afternoon's sport—a promise that was confirmed by the very satisfactory entries from both quantity and quality viewpoints. There were two races for small cars, comprising 1,100 c.c. and 1,500 c.c. classes respectively, and while these races were disappointing from a spectator's point of view, small cars did well in other races.

The meeting opened with the "Drivers' Race," which did not show up the small car entrants to advantage. Out of the twelve starters eight were small cars, and half of these were supercharged, but not one of them succeeded in getting placed. The start was by the new grand-stand and the finish on the railway straight.

(1) A popular amateur, H. W. Purdy at the wheel of his 1½-litre Bugatti. He won the "Spectators' Race" for 1,500 c.c. cars.

Five small cars had completed a lap before the scratch man, Kaye Don, got away in his big Sunbeam. Of the five leaders, H. N. Thompson (H.N.T.) seemed to be going well, having gained two places in the lap, but V. Gillow (Riley), the limit man, still retained an easy lead. Thompson actually established a lead for a while in the fourth lap, but soon lost it to Capt. Frazer Nash (Frazer-Nash). Nash held his lead well, and it appeared for a while that he might prove the winner, but meantime the large cars behind had got into their stride and they proceeded to do terrible execution in the last mile of the race.

The winner was Capt. Malcolm Campbell (1,900 c.c. Bugatti), who was closely followed by J. Taylor (2,994 c.c. Austro-Daimler), and E. L. Meeson (Vauxhall). Taylor's placing was very popular among the spectators, the entrant of the car being Mr. A. C. Hess, of *The Sporting Life*.

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The next race, which was confined to cars of the 1,100 c.c. class, was known as the "Spectators' Race," but it proved to be rather a dismal business from the spectators' point of view. The course consisted of ten laps round the members' hill, so that two hair-pin bends, one at each end of the finishing straight, had to be negotiated. The start and finish were opposite the paddock and the race was from scratch.

The starters consisted of two Salmsons, an Austin and a Ratier. At the end of the first lap George Newman (Salmson) led by 200 yards, then came Dr. Benjafield (Salmson) and J. S. H. Wilson (Austin) in fairly close company, whilst 300 yards or so behind them was Capt. F. H. B. Samuelson (Ratier), and in this order the race dragged on. On the eighth lap, George Newman, whose lead was by then about 600 yards, overtook the Ratier, which shortly afterwards disappeared altogether. George Newman won, at 51.94

m.p.h., by half a mile; he toured comfortably over the finishing line, smiling to friends among the spectators whom he was easily able to recognize. Dr. Benjafield finished second and J. S. H. Wilson third.

The race for 1,500 c.c. cars was over the same course as the previous one, but proved rather more interesting. There were six starters. H. W. Purdy (Bugatti), who proved to be the ultimate winner, established a small lead almost from the fall of the starter's flag, and this he proceeded steadily to increase throughout the race. For two laps D. M. K. Marendaz (Marendaz Special) lay second, but on the third lap he was overhauled by Capt. M. Campbell (Talbot) and Capt. Frazer Nash (Frazer-Nash). On this lap, too, Capt.

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J. C. Douglas (Bugatti) retired owing to a jammed throttle. Marendaz worked his way back to second place again in the fifth and sixth laps, but later appeared to be troubled by misfiring, and eventually retired, leaving the fight for second and third places to Capt. M. Campbell and Capt. Frazer Nash. H. W. Purdy won by nearly a lap, Capt. M. Campbell was second and Nash third. The winner's speed was 59.18 m.p.h.

The fourth race was for cars of the 2,000 c.c. class over the same course, and is of interest chiefly for purposes of comparison. It was won by George Duller (Bugatti) at 69.17 m.p.h.

In the fifth race, a handicap, small cars succeeded in carrying off second and third places. The course was the same as in the first race—starting by the grand-stand and finishing in the railway straight. Three laps were run. F. H. Boyd-Carpenter (Austin), the

limit man, held his lead for nearly two laps, but the lead was then taken by H. N. Thompson (H.N.T.), hotly pursued by the big Stutz driven by R. F. Watney, and by B. Eyston (Aston-Martin). The Stutz won by 25 yards, H. N. Thompson and B. Eyston having to be content with second and third places respectively.

The sixth race, a Winners' Handicap, started over half an hour late. Evidently the handicappers found their task distinctly formidable, but they nevertheless succeeded in producing a remarkably close finish. Capt. Frazer Nash (Frazer-Nash), H. N. Thompson (H.N.T.), and B. Eyston (Aston-Martin) led the field of 11 starters in varying orders right through the earlier stages of the race, but at the finish E. Meeson (Vauxhall) succeeded in catching all but Nash, who won by 10 yards. H. N. Thompson finished third. Winner's speed 86.74 m.p.h.

The 100-mile Handicap.

The next and last race on the programme was the 100-mile handicap of 37 complete laps. Among the 19 starters there were 15 small cars, but only one of these succeeded in getting placed.

A. B. Elford (Amilecar), the limit man, had no less than 21 mins. 48 secs. start and he made good use of it, retaining the lead until the twenty-third lap, when Dr. Benjafield (Salmson) and B. Eyston (Aston-Martin) passed him. Meantime, the spectators had had their share of excitement. C. K. Chase (Austin Special) was unable to start despite the efforts of half-a-dozen men who pushed vigorously. After 10 mins. tinkering at the pits he got away, but was not seen again. F. Scriven (Felix "Nanette") retired in his eleventh lap with transmission trouble. Capt. Frazer Nash (Frazer-Nash) retired on his twentieth lap with engine trouble. H. W. Purdy (Thomas Special, supercharged), the scratch man, appeared from a rough stop-watch observation to be lapping at well over 112 m.p.h., but half way through the race his back springs broke and the car practically sat down on the track. The driver escaped with a severe shaking. Capt. F. H. B. Samuelson (Ratier) retired on his twenty-eighth lap.

B. Eyston (Aston-Martin) and Dr. Benjafield fought a good battle for light car favours, but succeeded only in securing third and fourth places respectively. The winner was J. R. Cobb (Vauxhall) and he carried off (subject to confirmation) a number of world's records in class D. His speed was 111.92 m.p.h., and he won by a quarter of a mile. Among the small cars, George Newman (supercharged Salmson) finished sixth, Capt. J. C. Douglas (Bugatti) seventh and "R. Wilson" (Bugatti) eighth.

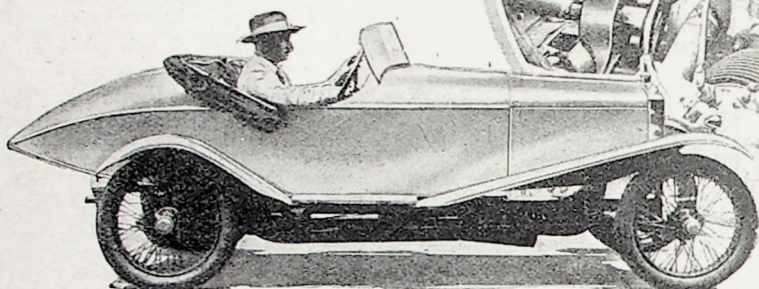
FORTHCOMING EVENTS.

Readers interested in the sporting side of motoring should watch the pages of *The Light Car and Cyclecar* for full details of week-end events. Published on Friday, the journal gives last-minute information concerning all light car fixtures.

(22) The start of the "Spectators' Race" for 1,500 c.c. cars. The winning Bugatti is seen on the extreme left. (3) The low-built Thomas Special "all-out" on the banking in the 100-mile handicap. (4) A unique glimpse of a struggle for supremacy on the home banking. A. G. F. Nash (Frazer-Nash) is being overtaken by Kaye Don's big Sunbeam. The latter has just hit a bump on the track at about 115 m.p.h., all four wheels being in the air and the driver himself flung partly out of his seat. The third of the three cars in the foreground is G. E. Took's Vernon Special.

What of the Small "Two Cylinder?"

AN INVESTIGATION INTO THE CLAIMS OF A TYPE OF MACHINE WHICH HAS MANY POINTS IN ITS FAVOUR.



The A.B.C. and a view of its horizontally opposed two-cylinder engine.

The continued popularity of three-wheeled cyclecars prompts us to suggest that there is plenty of room on the market for a similar sort of vehicle on four wheels; the cyclecar of 10 years ago, in fact, but built on the lines demanded by modern requirements.

PROOF against all blandishments, one of the most prominent cyclecar manufacturers in this country has resolutely set his face against turning his three-wheeled vehicle into a four-wheeler, despite the fact that there is unquestionably a market for the latter type. His strict adherence to this policy has undoubtedly brought him prosperity. He realized when other cyclecar builders were elaborating their machines almost beyond recognition that the demand for the simple type of three-wheeler he was producing

would keep him busy for many years to come. It had achieved world-wide popularity, his very reputation had been built up upon it, and, naturally, he saw no particular reason why he should venture into a new sphere.

Surely, however, even he could not give to-day any logical reason why a two-cylinder air-cooled four-wheeler built on similar lines to his own production should not be an instantaneous success? The market for a machine like this is very wide. It embraces a large section of motorcyclists who are looking round for something on four wheels to replace their present mounts—but having similar characteristics.

After the war a determined attempt was made by certain concerns to cater for their needs, but either the



(Above) A very neat two-cylinder engine-clutch-gearbox unit, the Coventry Victor.
(Right) The ingenious two-cylinder two-stroke engine and gear unit of the Carden.

firms had not a sufficiently large financial backing or their productions had more car than motorcycle features in their specifications, and so gradually the idea of two-cylinder machines of the cyclecar order was abandoned and now those who think in terms of really small economical motorcars have to give up all thoughts of possessing something built on lines with which they are thoroughly familiar.

In reopening the case for two cylinders as applied to small cars, we feel that we have first of all to overcome a certain amount of prejudice. Modern motorists are prone to argue only along four-cylinder lines. There are, they proclaim, disadvantages—vague, indefinite, and generally undefinable—against two cylinders, and they will have none of them. Let us get right down to it and discuss quite frankly the advantages and disadvantages of the type of engine which we are now advocating, comparing it with four-cylinder engines of about the same capacity.

In the first place, the number of major working parts is halved—a matter of some importance when it comes to questions of replacement during an overhaul or even the fitting of new sparking plugs.

The working parts are naturally heavier, having twice the amount of work to do, but this, if anything,

adverse criticisms apply with any particular force? If a defence is deemed necessary, it may be argued that the all-round running economy of a simple two-cylinder cyclecar more than compensates for the slightly higher cost of oil, whilst torque deficiencies may be overcome largely by using a comparatively heavy flywheel—and this without sacrificing acceleration to any noticeable degree.

Points which remain to be discussed are the price at which such a vehicle could be marketed, the specification and the bodywork. One holds the opinion that the public will no longer be beguiled by the attractive all-round figure of £100, and, in any case, modern motorists are sufficiently educated to know that an extra £20 or £30 may make all the difference between a commercially sound proposition and a machine which fails to attract simply because manufacturers cannot supply all that is wanted for the more limited figure.

One thinks, therefore, that the type of machine one has in mind could be made and would sell easily for £130. After all, the initial cost of a machine does not matter so much as its ability to please its owner and to run economically. This is proved conclusively by the fact that light cars costing as much, and some-

THE PROOF OF THE PUDDING . . .

(Above) The Jowett, which has a two-cylinder horizontally opposed water-cooled engine. It is one of the biggest "sellers" on the market. (Left) A form of Blackburne engine which is propelling countless cyclecars to-day. (Right) Another very popular cyclecar engine—the J.A.P.

is in their favour, for they are more easily handled and no more likely to get out of order. An engine of the air-cooled type offers the distinct advantages of warming up very rapidly to its work and of being proof against frost. Finally, it is a type of power unit which every motorcyclist of any experience understands—which means that not only can he get the best results from it, but he can overhaul it and keep it in general running order without any outside assistance.

Reliability is, of course, one of the main considerations, but motorcyclists themselves need no further proof than that supplied by their own experience, whilst the same applies to the power and economy produced by a unit of this sort.

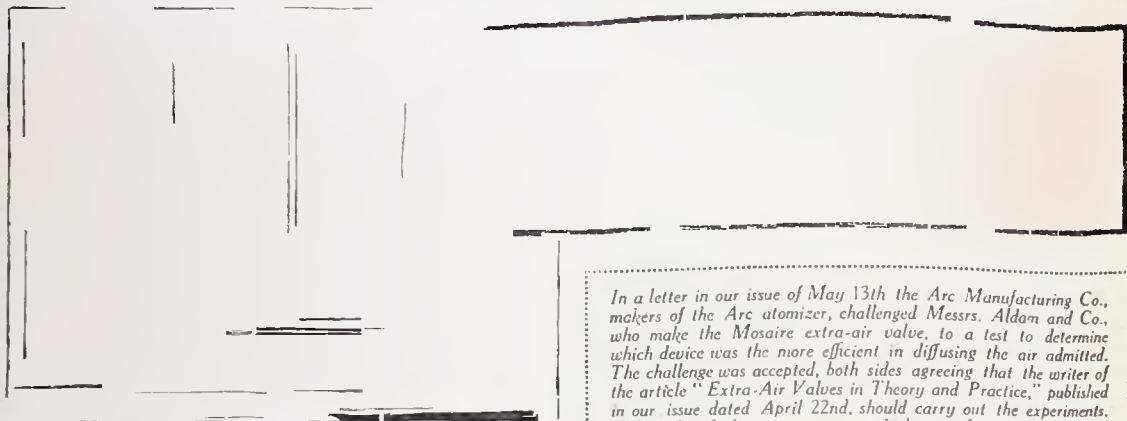
A few years ago the argument that big air-cooled engines were hard to start was in certain cases justified, but great strides have been made in ignition, carburation and so on since then, and it is no exaggeration to say that a modern, properly tuned, air-cooled twin is quite as easy to start as any four-cylinder job.

The former, however, does suffer by comparison when oil consumption is taken into account; it must also be admitted quite frankly that, placed side by side with a four-cylinder engine, the torque is not by any means so even. As we are discussing the possibilities of the type from the point of view of the erstwhile motorcyclist, however, can it properly be said that these

times more than, vehicles of medium weight having far more elaborate equipment and greater comfort continue to hold their market and to attract a large percentage of knowledgeable buyers.

The specification of the type of car under consideration should comprise a two-cylinder engine either air or water-cooled, a three-speed motorcycle-type gearbox (or, better still, an engine-gearbox unit designed for the car) and a final drive by either shaft or chain. The body should not be skimped and comfortable accommodation for two should be provided; a chummy body would, no doubt, prove attractive and might be fitted as an alternative, whilst a presentable appearance and really good all-weather equipment are essentials.

We should emphasize the fact that the ideal at which designers should aim is to provide a vehicle of more or less conventional appearance, but with a good road performance. The success of a revival of this type of car would depend almost entirely on its ability to capture—and hold—the fancy of those who made their first acquaintance with motoring on the saddle of a motorcycle, and these folk would not be content with something that compares unfavorably with two-wheelers so far as acceleration and all-out speed are concerned. The plain truth is that they want a motorcycle and sidecar on four wheels.



DURING the month of May there appeared in the columns of *The Light Car and Cyclecar* a number of letters from makers and users of extra-air valves dealing with the merits and limitations of these fittings. The discussion resulted in a test being suggested by two of the makers, the "terms of reference" being to determine the extent to which extra air, admitted by means of the valves, is sprayed into the main gas stream and so helps to vaporize the petrol and improve the mixture by making it more homogeneous before it reaches the combustion chamber.

The models of extra-air valves supplied by the makers were of the normal hand-operated type. Flanges suitable for a No. 30 Solex carburettor were used. In both models the flanges contained an annular space surrounding the passage from the carburettor to the induction pipe, their fundamental difference being in the means by which the air passed from this annular space to the main gas stream.

In the Arc atomizer (made by the Arc Manufacturing Co.) the passage was effected by means of 30 holes spaced equidistant around a ring covering the annular space. These holes were about 0.06 in. diameter.

In the Mosaire valve (made by Messrs. Aldam and Co.) the annular space was covered by a coil of copper wire, so that the air had to enter the passage through the spaces between the coils. There were 85 of these spaces, the exposed length of each being about $\frac{1}{4}$ in. The clearance between the coils varied considerably; in some a feeler of .0015 in. would not enter, in others there was a clearance of .004 in.

Early Experiments.

In the early experiments the valve under test was bolted to the flange of a No. 30 Solex carburettor, the other side of the valve flange being connected to a glass tube of the same diameter as the induction pipe. This was fitted with a pressure gauge and a pump. In later experiments, in order to get better illumination, glass was fitted on the carburettor side of the flange also and a powerful beam of light was transmitted along the induction pipe.

The air holes of the valve were connected to a vessel which would supply a visible gas at atmospheric pressure. Smoke-laden air was tried, but as it proved insufficiently visible, chemically treated air was used. It was soon found that the behaviour of both valves varied very considerably with the difference of pressure between the atmosphere and the interior of the induction pipe, and it became necessary to ascertain what this pressure difference was in practice.

A number of gauges were designed and made, and ultimately an instrument was obtained which was sufficiently delicate without showing the effects of vibration. This was attached to the induction pipe of the engine of a Singer Senior saloon, the dial being brought up to the instrument board and a series of tests made

In a letter in our issue of May 13th the Arc Manufacturing Co., makers of the Arc atomizer, challenged Messrs. Aldam and Co., who make the Mosaire extra-air valve, to a test to determine which device was the more efficient in diffusing the air admitted. The challenge was accepted, both sides agreeing that the writer of the article "Extra-Air Valves in Theory and Practice," published in our issue dated April 22nd, should carry out the experiments. The results of these experiments, which are of great interest and value, appear below.

under actual road conditions. These proved of more than passing interest, and the abstract of them, given in the following table, will indicate the type of pressure prevailing when an engine is performing its normal function:—

Condition.	Pressure in induction pipe in lb. per square in. below atmospheric pressure.
Engine ticking over, gear in neutral ...	8½
10 m.p.h. on level, top gear ...	5
20 m.p.h. on level, top gear ...	4
30 m.p.h. on level, top gear ...	3½
20 m.p.h. uphill, top gear ...	2½
Under full load on hill, top gear, but a change down urgently necessary ...	0.9

It may be added that when driving in traffic the needle of the instrument was constantly passing over practically the whole of the range indicated in the above table.

A Curious Phenomenon.

With this information the laboratory experiments were continued and it was found that in order to make the "extra air" impinge into the gas stream by any measurable amount a much greater difference of pressure was necessary than would be met with in practice. When this excessive pressure difference was maintained both valves showed a penetration into the gas stream, but a curious phenomenon was observed in both cases. The air did not enter the gas stream by all the holes provided.

In the Arc atomizer only about half the holes delivered air except under a very high-pressure difference, and in the case of the Mosaire valve rather more than half (about 210 degrees of the periphery) functioned. Experiments under a very high pressure difference using a very dense fluid seemed to indicate that this was due to an inertia effect in the annular space.

It required a pressure difference far in excess of that met with in practice to demonstrate any difference in the behaviour of the two valves. Under such conditions, however, the Mosaire valve perhaps showed a slight superiority, as each individual jet became fan-shaped (the plane of the fan lying in the direction of motion of the gas stream), instead of the plain jets of the Arc atomizer, which, it is only fair to add, produced one large fan at very high pressures indeed when the jets impinged upon themselves.

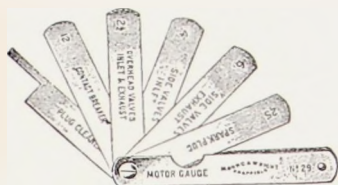
It was, however, abundantly clear that under any conditions, even approaching those which would be met with in the induction pipe of an engine, the extra air is immediately bent round into the main gas stream and does not become intimately mixed with it until a distance of at least two inches has been traversed.

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The cabinet contains cans to hold 1 gallon petrol and 1 gallon oil, and are held in position by strong springs to prevent rattle.

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Overall size 15 in. by 7 in. by 7 in., 22/6 each.

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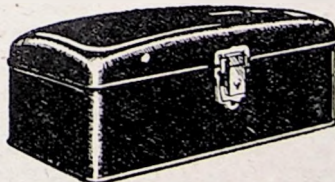
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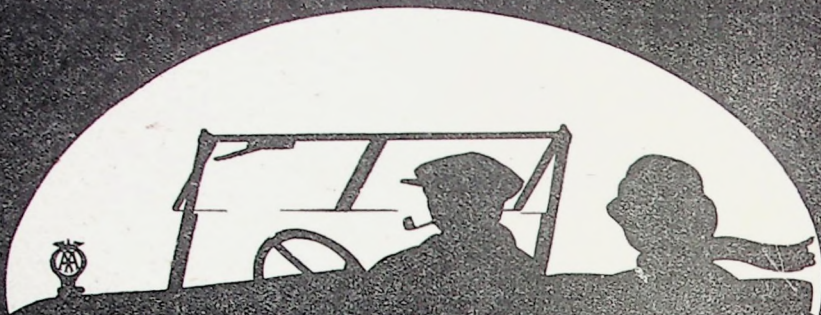
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WHEN REPLYING to advertisements, mention "The Light Car and Cyclecar." It helps the advertiser and you, and assists the small car movement generally.

This mixing is, of course, due more to the natural turbulence of the gas stream than to the form of entry of the extra air.

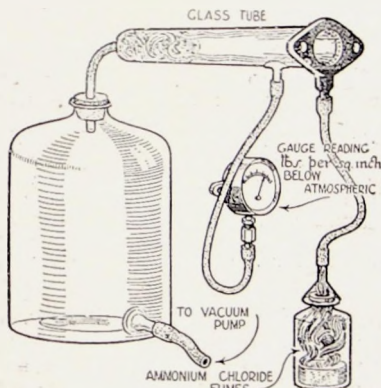
It will be appreciated that the problem was not nearly so simple as it appeared before the work was commenced. It is, I think, generally agreed that the amount of extra air an engine will take varies more or less directly with the throttle opening, because most carburettors tend to give a rich mixture at high speeds.

As at present designed, most extra-air valves admit air in amounts depending upon the degree of vacuum in the induction pipe. This, as I have shown, varies inversely as the throttle opening, hence less air will be admitted as the engine becomes capable of taking more, not only relatively, but actually.

In order to test the truth of this hypothesis, an extra-air valve of standard make was adapted in such a manner that it could take in air only through a tube attached to its side. A length of rubber tube was connected to it and continued through to the instrument board, where it was fixed to a glass bottle of the type shown and containing a little water.

It will be seen that any air which now enters the induction pipe through this valve will first have to bubble through the water, and it is quite easy to judge its relative amount.

The first point brought to my notice was that a certain amount of air was drawn in when the valve was closed, and although I took the valve to pieces,



The apparatus used to determine how the air admitted through the valve mixes with the induction steam.

thoroughly cleansed the faces and made sure that there was sufficient back-lash in the Bowden-wire control, I was unable to get a gas-tight joint.

The second point was an emphatic proof of the hypothesis formed on the evidence of the vacuum meter. At a low throttle setting a large amount of air was admitted, but as the throttle was opened the amount of air grew less, although some was admitted at all speeds over the range of my test.

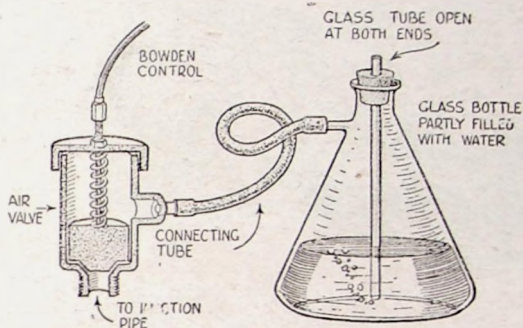
A NEW BRAKE SERVO.

A NEW type of brake servo which has distinct possibilities for use on small cars has been introduced by Hydraulic Cable Brakes, Ltd., 1, Laundry Road, London, S.W.6. The servo is suction-operated and works by means of a single bellows arrangement, which clamps to the frame of the car alongside the brake-pedal lever.

When the brake pedal is depressed a rotary valve is opened, and this causes induction-pipe suction to act upon the bellows. At the same time a pressure-equalizing orifice connecting the interior of the bellows with the outside atmosphere is closed progressively, the maximum effort of the servo being exerted when this orifice is fully closed and the rotary valve fully open.

Those who are familiar with the working of a normal type of suction-operated windscreen wiper will recall that this accessory, which also depends upon the degree of vacuum in the induction pipe, behaves in an exactly similar manner—that is, it works vigorously when the throttle is closed, and becomes very feeble, or even ceases to work altogether, when the throttle is opened.

A third point which might be noted was the fact that the amount of air admitted was nearly independent of the extent to which the valve was opened. I came to the conclusion that the amount was limited by the smallness of the holes in the "diffuser coil" or "atomizing ring," and not by the extent to which the outer holes were uncovered.



How the amount of air admitted during actual running conditions was observed.

Everyone is agreed that the extra-air valve forms an excellent air brake, and, in my opinion, it is well worth fitting for that function alone. The points on which difference of opinion exists are:—(1) Does the extra air admitted assist to atomize the petrol in the gas stream as it issues from the carburetor? and (2) can the extra-air valve be used as a mixture control and thus save petrol?

I realize that in attempting to answer these questions I am touching upon a very controversial subject, but, putting aside personal opinion altogether, the experimental data obtained seem to indicate that the answer to question (1) is in the negative. At any rate, there is no evidence that any really material assistance is given in this department.

The answer to question (2) is a very qualified affirmative. A valve can be used for the purpose of weakening the mixture, but in its present form it cannot be regarded as a satisfactory "control," because the engine decides the amount of air taken in, and, unfortunately, decides it in the wrong way.

If these valves could be modified so that their function could be brought under a ready hand control, or, better still, under a satisfactory automatic control, they would, in my opinion, form a very valuable accessory indeed, and on this account I think a considerable amount of scientific experiment would be fully justified.

A. H. STUART, Ph.D., B.Sc.

We have had a short test run in a car equipped with one of these new servos, and it was noted that the normal braking effect was considerably enhanced. The action of the brake pedal was positive and progressive, the valve gear of the servo being nicely adjusted so that the servo does not appear to come into action except when it is required.

We understand that a number of leading British small-car manufacturers are testing out this device and that it is proposed shortly to make arrangements for fitting existing cars at the service stations of Hydraulic Cable Brakes, Ltd. Owing to the extreme simplicity of construction, it is expected that prices will be distinctly competitive.



THE BEST WATERS ARE BROUGHT, METAPHORICALLY SPEAKING, TO THE ANGLER'S DOOR IF HE IS THE POSSESSOR OF A MODERN LIGHT CAR.

Motorists are beginning to realise that a light car is not always an end in itself, but is to a greater and still greater extent becoming a means to far more useful conclusions than an interest in gears and grease guns. In the following article the writer shows how invaluable a car may be to an angler and, incidentally, he gives one or two useful fishing hints.

ANGLER-MOTORISTS—and this is a by no means unusual combination—have a large advantage over their fellow sportsmen who are compelled for reasons of economy to adopt slower means of travel. The car will carry them with ease and in comfort to haunts of the sea trout and to similar remote eyries miles upon miles from towns and the poor convenience of the iron road. By the side of a tiny water, from which every now and then a noisy splash resounds as a fish makes a brief flight from, and return to, its natural element, the enthusiast can put his rod together and muse with Izaak Walton on that good old sixteenth century song—

We'll take no care
When the weather proves fair,
Nor will we vex now though it rain.
We will banish all sorrow,
And sing till to-morrow,
And angle and angle again.

Our angler may not, of course, "sing till to-morrow," but his idea of time will nevertheless be a little different from that of other sportsmen, just as the nature of his recreation precludes it from being obtained with any degree of satisfaction near the haunts of those who seek their sport near at home.

He may set off when other folk are ending their day, and in the cool of the evening the journey is but the beginning of the evening's sport. It is intriguing for him to reflect that when other folk are toiling homewards or cramming into stuffy railway carriages he is just setting off on his mission.

To the Troutlands.

Maybe he is ambitious, and, thinking of nothing that is in smaller terms than two-pounder trout, will plan a "fishing tour." The troutlands in the West and the North may necessitate a long journey for the large majority of town-dwelling men; more than 200 miles may have to be covered before the best waters are reached, and such a holiday, of course, necessitates more forethought and careful planning than does an evening's trip to a local rivulet.

Arrived near the seat of the king of waterways, the car is taken off the beaten track along slibery, wet-leaved by-ways, up winding moorland tracks leading to some weed-covered mill-leat; mayhap a few hundreds of yards will have to be covered on foot, but the major part of the journey can be accomplished in the car.

As the sunlight moves slowly from the surface of the water the play begins. At first an occasional splash denotes the flight of a big fellow, hard after some unfortunate aquatic insect; the dusk gathers and the noise increases as, one by one, the fish in the deep awake from their day-time dreaming and rise to the surface for food. From the tall weeds at the banks of the leat are driven fresh-water shrimps and water insects which form the food of the anglers' sport; fish cannot exist without food, and the angler is very thankful for these still waters where the weeds may grow and provide free food for the more valuable contents of the stream.

Waiting for the Big Fellow.

If the hour be early it is certain that fish worth catching will still be seeking the remnants of shade beneath tiny bridges and plunks across water-carriers; they love the shade, and there the wise angler is to be found, waiting for the big fellow who lurks beneath the bridge. Indeed, in the shallow leats for which the angler-motorist will make, leaving the larger and less fruitful waters to his less fortunate fellow sportsmen, the main difficulty is to remain hidden from the keen eyes in the watery underworld. This is where the expert shows his skill.

Frequently the use of an artificial fly presents insuperable difficulties, owing to the banks of the by-way being overgrown with tall weeds; but this merely makes additional demands upon the skill and equipment of the angler, and what more can be needed to add to the fun of the game? What better reward can there be than the thrill of a tug from a fish likely to turn the scales with many pounds and ounces?

Time is not of particular importance and the angler continues the game until the bag is fairly filled. It is of no concern to him that others have reached waters only half as far removed from populous centres. An hour ago, perhaps, they were compelled to take to the return road again, and now, while he still thrills with the memory of the last skillful tussle, they are toiling wearily uphill on foot and are thankful for every downward trend of the road.

Later, when even supreme satisfaction proves a weariness, the rugs are removed from the radiator of the car and the starter button sets the geni under the bonnet a-buzzing; then, back through the narrow lanes mantled in the weird colours cast by the swift-fleeing day.

PISCATOR.

Read the following experiences of a South Wales Morgan owner. They form positive proof of the sterling qualities of



6th May, 1927.

"Having had remarkably good service from your tyres over period of seven years, averaging 12,000 miles a year, I must write and tell you of the culminating result of my latest experience.

I have just completed 11,000 miles since July, 1926 on a De Luxe Morgan fitted with 26" x 3½" S.S. Dunlop Cord tyres, during which time I have not sustained a single puncture. The back tyre has never been removed, and the walls are still perfect."

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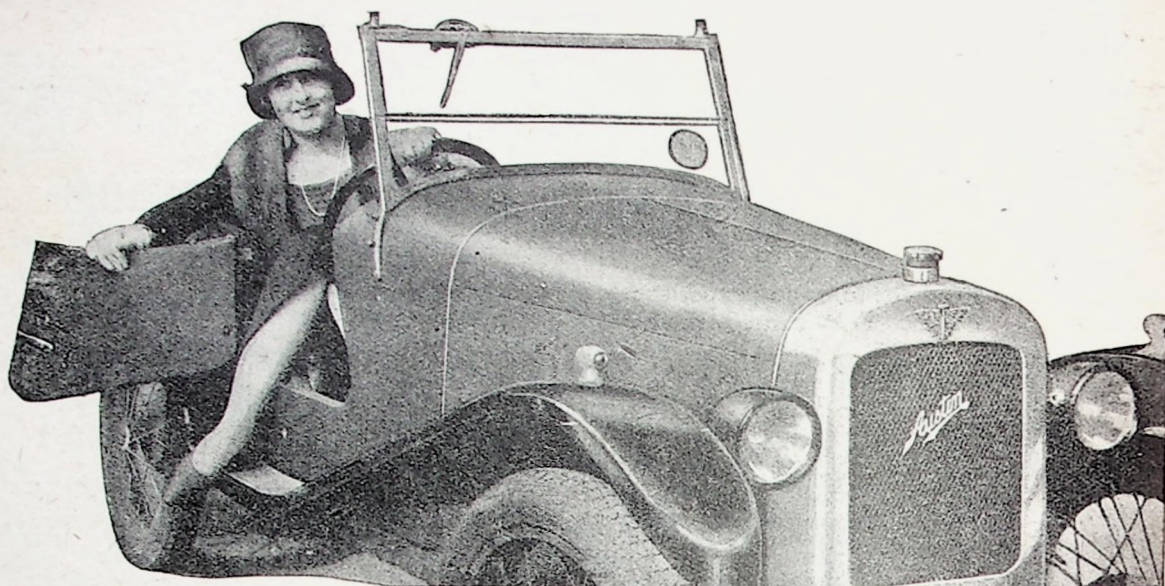
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And so will you after a trial run in an England Cup Model Austin 7—fresher because you will have felt the exhilaration of easy, effortless speed and surging power untrammelled by unnecessary weight; triumphant, too, because you will have known the delight of holding the camber at 55 miles an hour with the tenacity of a heavy tourer; and quite comfortable, because you will have been sitting on a pneumatically upholstered seat, tilted at just the right angle, with your legs stretched out luxuriously.

The Cup Model is absurdly cheap to

run—under 10/- a week. Find out for yourself what it will do, and how easily it will do it, by asking your agent for a trial run to-day.

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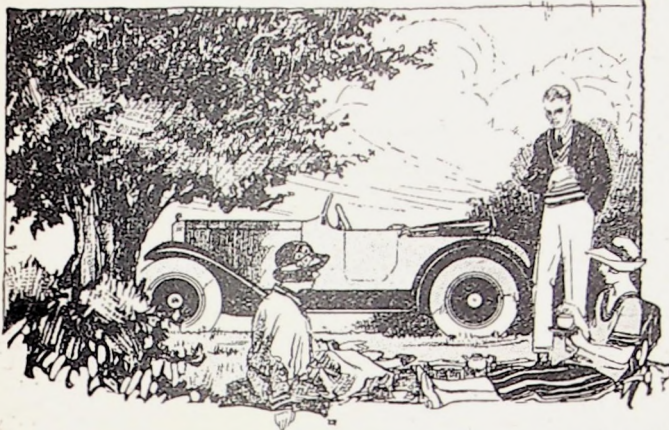


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B42

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Our Readers' Opinions

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

IS "FREE-WHEEL" DRIVE PRACTICABLE? Criticisms and Suggestions—The Importance of Brake Design.

Eliminating the Differential.

Having read the article on free-wheel transmission, and being very interested in the subject, I should like to suggest an idea which occurred to me some time ago. My idea is that if a "free wheel" were placed at each end of the back axle no differential would be necessary at all, the wheel on the inside of a curve driving, whilst the off-side one would "free wheel" when turning corners.

J. ODELL.

The Position of the "Free Wheel."

Referring to the article "Pros and Cons of Free-wheel Drive," your contributor, in suggesting the placing of the "free-wheel" clutch in front of the gearbox, overlooks that this position would annul much of the benefit that would accrue in changing gear, as the gears would be driven by the car in coasting, although the engine, of course, would not. Therefore, the inertia of the gear shafts themselves would be sufficient to cause a certain amount of clashing in changing.

At the same time, there would be a hum or "sing" from the gears when coasting, due to the drive—light though it be—from the reverse (and unpolished) side of the gear teeth. The position of the free-wheel clutch abaft the gearbox is clearly the better to derive the maximum amount of advantage, especially as most of such devices can be made amply strong to take the torque and are all quite small in size.

JUNIPER.

Not Until Cars are Improved.

The writer of the article, "The Pros and Cons of Free-wheel Drive," makes out a very strong case, but at the same time he puts his finger on two distinctly weak points to be found in the design of the average small car as we have it to-day. These are the braking system and the electric starter. I, for one, cannot see any

Modern Designs Criticised.

great future for free-wheel systems of transmission until considerable improvement has been made in the design and construction of braking systems. Brakes, we know, have been improved out of all recognition these past few years, but until an absolutely reliable servo system, capable of doing its work quite irrespective of engine speed, is introduced, the idea of using "free-wheel" transmission is not likely to make much headway.

I do not think I am expecting anything extraordinary from brake designers. Why, after all, should we not have

some reservoir arrangement so that a servo-operated brake, such as the Dewandre, will work to a large extent independently of what the engine is doing at the time? This has been successfully accomplished for many years now in railway braking; the slipping of coaches would be an exciting and uncertain business were the entire braking system to be thrown out of gear immediately on disconnection from the locomotive.

The question of improving starters is perhaps not quite such an important one, but they will come in for much more use as the danger of accidentally stopping the engine will be increased, and until the direct-coupled dynamo and starter is brought to an even greater state of perfection than we now have it, trouble will probably occur from time to time. Progress has been, of course, made along these lines of recent years, and I, for one, am convinced that the typical starter, with its persistent jamming, its noise and its dangers from stripping teeth, will soon be a thing of the past.

C.O.

* * The Dewandre servo unit does not interfere with braking when the engine is at rest.—ED.

Brake Design Not Good Enough.

The possibility of fitting cars with "free-wheel" transmission certainly intrigues me, but I am afraid that the idea has come both too late and too early! It has come too late because the traffic in our large towns has become so thick that, without the slight braking effect of an engine, a driver would have to

be continually transferring his right foot from the accelerator pedal to the foot brake. This movement of the right foot is quite tiring enough already, but with a "free wheel" in the transmission of a car it would become unbearable, and a new complaint, which would probably be known as "driver's foot," would claim the attention of doctors.

The reason why I think, at the same time, that the idea has been brought up too early is because, in my experience, the average car is not fitted with sufficiently good brakes. Braking systems, I know, have been vastly improved during the past few years, and are now fairly satisfactory and reliable, but in my opinion they are not good enough to stand the greatly increased work thrown on them by a "free-wheel" arrangement. Further, I do not think it would be an exaggeration to say that by the time brake design has reached a sufficiently high stage of development traffic will have become so dense that no one but a lunatic will want a "free-wheel" car. Do other readers agree, or do they think that I am too pessimistic?

FIXED WHEEL.
B43

OUR READERS' OPINIONS (contd.).

Cyclecar Racing—Views of Well-known Personalities.

Prof. Low on Inexpensive Motoring.

The three-wheeler is unquestionably one of the most efficient vehicles known, and it seems reasonable, therefore, that it should be developed by racing. The very efficiency, however, of the standard touring three-wheeler has led to a somewhat unusual position, because it is capable of speeds for which most touring four-wheelers would have to be very specially prepared. There is naturally a touch of the motorcycle about all three-wheeled vehicles, and this has probably led to the exaggerated suggestion of danger.

Personally, I always consider that the three-wheeler is a logical step between the motorcycle and the car, and, as such, I am in favour of the breed being improved.

Cheap motoring—without the special clothing essential to motorcycleing—is of the greatest importance to everyone, and I should therefore like to see racing encouraged for three-wheelers with an economic engine capacity of about 600 c.c. This might be a means of providing a family vehicle with ample speed and with maintenance and running costs reduced to a figure (inclusive of storage and so forth) which would bring the open road to thousands of people who still fear the weather and the cost. A. M. Low.

A 15-guinea Cup Offered.

Having seen my name mentioned in the correspondence on cyclecar racing, I certainly think it is time I supported this worthy cause. The following experiences may be of some small assistance in showing that the "dangers of the cyclecar" do not exist. I have covered 1,600 miles round Brooklands track in the course

of attempts on cyclecar records since June, 1926, at speeds varying from 50 m.p.h. to 70 m.p.h. I have lapped at over 70 m.p.h., when the track has been wet, on a standard chassis with direct steering and no shock absorbers. A front tyre has punctured at 70 m.p.h., and not once on these many occasions have I had any cause to fear a crash of any sort; neither have I experienced one single skid, "tail wag" or the quite ridiculous supposed efforts of all cyclecars to turn upside down.

There is a vast number of cyclecar enthusiasts, and the fact that they are barred from racing is extremely unfair, particularly as there are no legitimate reasons for the ban on them.

If any organization comes into being to provide the would-be cyclecar racer with an opportunity to race, I propose to offer a cup value 15 guineas to be used in any way that organization may see fit.

J. J. HALL.
Brooklands Track, Weybridge, Surrey.

Mr. H. Beart in Favour.

Having read the interesting remarks of "Shacklepin" and "Grand Prix" with reference to the revival of three-wheeler racing in this country, I must say that I heartily agree that it is high time something was done to establish once more properly organized racing for this type of vehicle. I quite appreciate that a

Grand Prix race is the finest way of testing out the qualities of any class of machine, but were such a race organized it would have to be taken seriously. It is fallacy to suggest that a three-wheeler is any more unsafe than any other car of its class, but at the same time it is not to be supposed that it would be possible to race, say, a standard Aero Morgan—excellent although this machine may be as a fast tourer—in a Grand Prix over a distance of 200 miles. One would not expect to enter a standard Amilcar or Austin Seven, for example, in such a race, although it is quite possible that they would be safer than a three-wheeler, owing to the fact that they would not be able to attain anything like the speed.

May I suggest that the better way to deal with this matter is for the Morgan Club to arrange a three-wheeler day at "the track" as early as possible next year? The meeting would, of course, be open to all makes of three-wheeler, and there would be ample opportunity to run off

a few short-distance races, together with a short-distance Grand Prix. Afterwards a committee could be formed to discuss the best means of re-establishing three-wheeler racing, and approaching certain clubs with a view to getting them to allow three-wheelers to compete in their meetings in the same way that they used to do five years ago.

H. BEART.

The Scottish Morgan Club.

On behalf of the Scottish Morgan Club I should like to endorse Mr. W. E. A. Norman's remarks on cyclecar racing. In Scotland we are meeting the same opposition as elsewhere. Morgans are not to be allowed

to compete at St. Andrews for the Scottish speed championships, the only reason given being that "Morgans have never been considered." If all Morgan owners would support one or other of the Morgan clubs we should then be in a position to hold our own meetings and so break down the apparent prejudice against cyclecar racing.

F. F. BRADSHAW, Hon. Secretary.
Scottish Morgan Club.

The Question of Organization.

In connection with proposed cyclecar races, why, Mr. Editor, do you let your correspondents do all the talking? To uphold your name you ought to have already formed

A "Schoolboy Enthusiast's" committee, with yourself as chairman, of course. Surely "Grand Prix," Mr. V. A. Cation, Mr. Beart and Mr. Opinion.

Taylor would serve with you. Get a move on and back up "Grand Prix." I want to see the race in my holidays, and I know many more who would pay their 5s. with more pleasure than for any other meeting.

THE SCHOOLBOY ENTHUSIAST.

* * We are prepared to help forward any projected cyclecar race to the best of our ability as a newspaper, but we cannot take upon ourselves the responsibility of organizing such a race. "Shacklepin" would be pleased to serve on any committee that may be formed.—Ed.

The Question of Economy.

I wonder how many readers, like myself, have turned a curious eye on the correspondence on cyclecars in the hope of getting some real enlightenment on questions other than speed? Having read Mr. V. A.

A Formidable Cation's article, I feel I must cry, "Now, then, owners of 'sevens' and 'eights,' what about it?" Surely The

Light Car and Cyclecar must have had a sheaf of letters hotly denying the (comparative) economy of the three-wheeler.

Where are all the "penny-a-milers"? "Economy" is a lovely word to play with, but can three-wheelers really claim a greater right to the use of the word than the lightest four-wheelers? What about chain life? What about that back tyre? How long does it last? How many three-wheelers over, say, two years old regularly give a fuel consumption of more than 45 m.p.g.?

Mr. V. A. Cation stated that "oil consumption is a revelation" when compared with that of a "high-revving" small "four." Surely all our friends who assure us that they "never seem to have to add any more oil (to their small 'fours') for months" are not going to take that lying down! Can we not have some real honest-to-goodness figures to prove the economy of the three-wheeler (apart from the obvious matter of tax)?

I know many lists of costs have appeared from time to time, but could we not have, side by side, just a few experiences of both types, extended if possible over a long period—say, 30,000 miles—so as to bring in a few repair bills?

MOUTH-ORGAN.

TO CORRESPONDENTS.—Please write clearly on one side of the paper only and leave a wide margin. It helps!

The Royal A-C (Acédès) £410*
6-cyl. 2½ seater

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

UNBIASED TESTIMONY.

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

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

Trusting that the A-C merits with all the success that it deserves,

H. B. FITZ HERBERT,

Kingsgate,
June 27, 1927. Broadstairs.

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

Telephone: KINGSTON 3340 (6 lines).

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

ACÉDÈS



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

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.

"My dear fellow!"

If you do the friendly thing and tell the man in the next house about Karpol—if you tell him that he can clean and polish the car in one operation *and use no water*, he won't at first believe you.

"My dear fellow" he will say, "it would scratch the paint."

Invite him without further words to come across and watch.

Choose one of the doors of your car. Show him how you take a little Karpol—a very little—on an old soft cloth and rub it lightly on the dirty surface until all the dirt

has vanished and the brightness appears; how you then give a final polish with another cloth—and the door is spick and span.

Let him do another door himself. He will enjoy it. He will see for himself that the paint isn't scratched but is restored and revived.

You have made a Karpol convert.

If, later on, he tells you he doesn't get quite the same result on his car, tell him that after two or three applications, Karpol will give him the same splendid finish you are getting yourself.



RECKITT'S Karpol

Nothing but an actual trial will convince you of the almost magical results of Karpol. The following offer is therefore made for a very limited time. Fill in this voucher. Send it to:

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

Name.....

Address.....

ES

RECKITT AND SONS LTD., HULL AND LONDON

OUR READERS' OPINIONS (contd.).

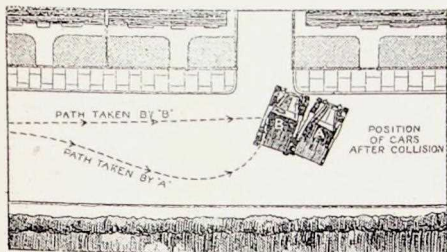
Awkward Road Situations—Interesting Queries.

Who Was to Blame?

Being an old hand of some 26 years' motoring experience I should like to know if the opinion I formed as to the cause of a collision I witnessed recently is correct; all my friends tell me I am talking through my hat, some even being rude, saying that I know nothing whatever about driving in spite of my 250,000 miles without accident. The circumstances of the accident are as follow:—

A Common Contingency.

The saloon (A) was proceeding in the direction shown in the sketch with saloon (B) some 20 or 30 yards in the rear at a speed of, roughly, 20 m.p.h. (A) wished to turn into the gateway of his abode on the left, and in order to do so (the gateway being narrow) he slowed up, pulled over to his right and then turned sharply to the left to enter the gateway. Before reaching the gateway, however, the



A plan view of the accident referred to by our correspondent "R.E.S." The car (A) pulled over to the off side and then turned into the gateway on the left.

saloon (B) in trying to get past, collided with (A), and they came to rest standing exactly alongside each other, both seriously damaged.

All my friends put the entire blame on (A), but I suggest that whilst the driver of (A) was guilty of great carelessness, the driver of (B) was more to blame for trying to overtake a moving vehicle on the near side.

It seems to me that when (A) pulled to the right without any signal it became an "uncertain quantity" which should have put the driver of (B) on his guard, especially as there were no buildings or openings on the right-hand side of the road; therefore, both drivers are to blame; the greater blame, to my mind, resting with (B).

If either driver had exercised a little imagination no accident should have occurred. My own gateway is similar to the one mentioned, and when entering I always give the right-hand signal before pulling over to the right, then

make sure there is no following vehicle before crossing the road; on the other hand, I never pass a moving vehicle on the near side unless invited to do so by the other driver.

I may say I shall attach great value to your readers' opinions, as it seems strange that I should avoid accidents—considering my mileage often reaches the neighbourhood of 200 a day at week-ends and holiday times—if my tactics are as wrong as some of my friends make out. R.E.S.

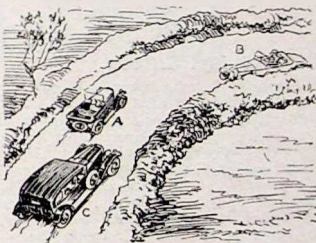
Passing on a Bend.

Having had the following experience and being still in doubt as to my proper procedure, I should be glad if you could assist me. I was driving the car (A) at about 15 m.p.h. to 18 m.p.h., and when in the

Readers' Views Wanted.

position shown in the sketch I heard a blare from an electric horn of a following car (C). I could see the oncoming car (B), but the driver of C could not. The case was so sudden that I made no signal. When the driver of C saw car (B) his bonnet was level with the back of my car and he immediately put on his brakes and drew in behind me. When he passed me later, however, he turned and glared at me as though I had committed a crime. He was driving a big Duimier saloon and I was in my Austin Seven.

My view of the matter is that he should not have attempted to pass me on a bend if he could not see that the



A question of signals; the driver of the car (A) is puzzled as to his correct procedure (see accompanying letter).

road was clear. What signal should I have given? I could not signal that I was turning right, as I was not doing so, and I could not slow down and signal that I was doing so, as the cars were too close for him to pass me even if I had reduced my speed. A.N.

* * Our correspondent's experience is by no means uncommon, and we invite opinions on the subject. Perhaps other readers have been faced with somewhat similar contingencies and have been puzzled as to their correct procedure. If so, we should be pleased to publish their letters, provided that they are of general interest.—Ed.

British Light Cars for India.

A Market for Standard Models.

Although an old reader of your journal I do not often rush into print, but I feel that I must say a few words supporting the view of your contributor "An Exile Returned," whose article was published in your issue of June 3rd. As an Englishman resident in India for more than 30 years and a motorist from early in 1909, I am in a position to say that I thoroughly agree with practically everything in the article, particularly as regards service, spares and so-called agents. My last three cars have been British, and, so far as service and spares are concerned, I have found them practically non-existent. On one occasion I was charged approximately 400 per cent. over the home price for a certain article for a British car—and that by the authorized agent.

Freak Cars Not Necessary.

I do not, however, quite agree that a special type of car as described is the only one that would sell out here. High clearance, wide track and so forth are, of course, essential for those who have to do a lot of district work, but apart from these people there are very many (myself for one) whose requirements are quite suited by the standard British car; a very big radiator is, however, essential.

In all other respects I agree with "An Exile Returned," and, in my opinion, matters are not likely to improve until manufacturers themselves take a hand out here, as I believe one or two are about to do. Such improvements all of us would certainly like to see, but I am afraid I shall not, as I am—
Deccan, India.

AN EXILE RETURNING.

Suspension Systems Condemned.

It is frequently debated why British cars are not overwhelmingly popular in the Dominions; I think there is one answer—suspension. In England, generally speaking, we have good roads, but it would surprise many motorists if they knew the number of spring leaves that are broken while touring in this country every year, and I shudder to think what the life of some of our springs would be after a few months' Colonial work. This is where the majority of American and French cars score, and I think it is time that all our manufacturers were capable of producing a spring that would at least stand up to anything that one could find on the "A" and "B" roads in England.

Where Foreign Cars Score.

J. W. COVENEY.
B47

OUR READERS' OPINIONS (contd.).

Quaint Inn Names.

"The Beetle and Wedge."

I was very interested in the recent paragraph by "Focus" on quaint inn names. I have collected information and all data possible about the various old inns which are to be found all over England, and I find

"The Five Alls."—a very absorbing subject. With reference to the query of your correspondent "Hiker" regarding "White

Lions" and "Red Lions," the "White Lion" dates from the reign of Edward IV (1461-1483), and the "Red Lion" was a badge of John of Gaunt and dates from Edward III's reign (1327-1377), also said to be the favourite badge of Cardinal Wolsey. Many of the inns bearing these names are of modern structure, rebuilt probably on the site of a former one dating from these periods:

The "White Lion" at Bristol dates from Edward IV's time, and the "Red Lion," Colchester, is really worth a visit, for in the year 1648 the town surrendered to General Fairfax, and in the yard of this inn the vanquished laid down their swords. In the notes I possess this house is given as being of the Tudor period, but no doubt a former house of the name existed on this site.

At Marlborough, Wilts, there is an elaborate signboard to an inn called the "Five Alls." The first compartment portrays the queen with the label, "I Take All"; in the second a bishop, "I Pray For All"; next comes the lawyer,

"I Plead for All," followed by a soldier, "I Fight for All," whilst the last figure is the taxpayer, "I Pay for All." Some facetious innkeeper added a sixth—the devil—with the words, "I Take All." At Moulshord, Berks, there is a rambling old place called the "Beetle and Wedge," whilst at Mablethorpe, Lincs, is an odd sign, the "Book in Hand."

This subject is practically inexhaustible, and I think that when one is on the road and sees the low, homely looking inns, which sheltered our forefathers and served as the usual places for meeting and recreation—being, indeed, the very centre for all news—they make a quiet appeal.

FLORENCE E. ROSE (Mrs.).

"The Case is Altered."

I have noticed with interest the various names of inns and the explanations attributed thereto in various parts of the country. Your correspondent "Hiker" quotes one at Harrow Weald—viz., "The Case is Altered." I know of a house of the same name at Ipswich, and the legend attached might prove of interest. It is stated that at one time the building in question was a church or chapel, and was eventually altered to an inn; hence the title, "The Case is Altered."

MONTAGUE ANNIS.

The 7.5 h.p. Citroën.

I wholeheartedly agree with your correspondent regarding the reliability of the 7.5 h.p. Citroën. I have had one since 1923, and among many pleasurable trips have toured Devon, travelled across Dartmoor and climbed Countisbury Hill. I have had "Ample Weather Protection," practically no trouble beyond a broken spring. I have just returned from a 150-mile run from Norfolk, with only one stop for lunch, and next time I use the car I shall only have to fill up with petrol and oil, touch the starter pedal and set out. Mine is an open car, but with ample protection for wet-weather driving, as one can keep snug and dry.

D. E. WHITE.

"Walking and Driving."

The article in your Summer Number, "Walking and Driving," is very sensible and very much to the point. It has always struck me as most extraordinary that nine motorists out of ten who leave London on a Sunday morning simply stick to

Exercise and Pleasure. their cars the entire day except for short intervals for meals and drinks.

If instead of this they left their cars, say, at the foot of the Downs and used their legs for a few hours, they would really see some English country and benefit themselves greatly. As a keen motorist of many years, I consider a car is an excellent servant but a bad master. If I had to live in London I should be only too glad of the chance of stretching my legs in the open country at the week-end.

A.B.C.

Delivery Charges Upheld.

May I compliment Mr. H. R. Oxford on his sensible letter regarding the vexed question of delivery charges? If only buyers would look at this question in a business-like way, they would see that a charge for delivery must be made somewhere, and to put on a flat rate is to penalize

A Fair System.

the man who lives close at hand to benefit distant buyers. To cite groceries and so forth is quite irrelevant, as the conditions of delivery and distribution are totally different, but even here, the cost of delivery has to be met, and is probably covered by several times the actual amount necessary, so as to leave the trader on the right side.

Considering this fact, the policy of motor manufacturers, who usually charge the net cost only (to the nearest figure), is quite moderate by comparison, bearing in mind the different relative values of the goods. I would also point out that it is usual for engineering firms to pay the

carriage on castings, etc., ordered by them, so that the "ex works" policy may be taken as standard practice in engineering, and a motorcar is, after all, only a complicated piece of machinery.

JUNIPER.

CONDENSED CORRESPONDENCE.

"Excelsior," "A.J.S." and "Francis-Barnett" wish to express their deep gratitude to the three occupants of an Aero Morgan who so kindly assisted them at High Beech on a recent Tuesday evening.

Following the criticisms of four-wheel brakes which have recently appeared in our columns, "Headlight" writes to say that he has covered 25,000 miles in a Clyno and has found the f.w.b. "simply wonderful."

Mr. H. D. Elany (Bilston) writes expressing his appreciation of the straightforward treatment he has received from Geoffrey and Proctor, Ltd., Manor Road, Richmond, from whom he recently purchased a G.N.

Lectro Linx, Ltd., makers of the Auto-clix sparking plug terminal which was described in our "Interesting Accessories" page recently, have sent us a copy of an interesting and amusing letter which they have received. In the course of his praise of this accessory the writer states: "I have had these fitted to my car for three weeks and have come to the conclusion that I would rather have buttons off my coat than Auto-clix off my sparking plugs."

INFORMATION WANTED.

STANDARD.—The opportunity to buy or borrow an instruction book for the 1922 model would oblige.—L. E. Langford, 18, Thornwood Road, Lee, S.E.13.

JOWETT.—Readers' experiences on improving the road-holding qualities of the light four model would be appreciated.—R. W. Dyer, Wildwood, Hutton Bridge, King's Langley, Herts.

AERO MORGAN.—Readers' experiences regarding the fitting of racing J.A.P. engines to models previously equipped with 10-42 h.p. Blackburne engines, and information on the cause and cure of the vibration which in his case has set in after this change has been made would be appreciated.—"R.R.H.," Broom Lodge, Riverhead, Sevenoaks.

LOST.—A hood cover from a Singer Senior between Scarborough and Whitby on Sunday, July 10th. The finder is asked to get in touch with—A. E. Turner, 232, Highbury Road, Dulwell, Nottingham.



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

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

C. C. WAKEFIELD
& CO. LTD.,

*All British Firm, Specialists
in Motor Lubrication,*

Wakefield House, Cheapside
LONDON, E.C.2.

Miss Violet Cordery has just arrived home after completing a World Tour of nearly 12,000 Miles on an

INVICTA CAR

under the Official Observation of the Royal Automobile Club.

The Tour embraced France, North Africa, India, Australia, the United States and Canada, and Wakefield CASTROL Motor Oil was used throughout—so following the precedent set in so many achievements of endurance and reliability on land, sea, and in the air.

It will be remembered that Miss Cordery also used CASTROL in her famous record runs at Montlhery, when she beat World's Records up to 5,000 Miles at over 70 miles per hour, and at Monza, when she covered 11,000 miles in 11½ days, breaking 4 World's and Class Records and 33 Italian Records.

If you wish to ensure the utmost reliability and performance from your engine, follow the example of Miss Cordery and the recommendation of over 200 Motor Manufacturers; insist on—



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

WORLD'S RECORD SEA FLIGHT

June 28th 1927

USING

Mobiloil

2400 miles across the Pacific

A marvellous achievement, when engine failure meant a descent into the sea and possible disaster.

The United States Army Air Corps pilots who accomplished this epoch-making flight from San Francisco to Hawaii used Mobiloil "B" to lubricate the three Wright "Whirlwind" engines of their Fokker plane.

They pinned their faith to the standard grade of Mobiloil "B"—identical in every respect with the Mobiloil "B" you can buy at all garages.

Colonel Lindbergh, the Atlantic hero, used Mobiloil; Commander Byrd, in his amazing North Pole Flight, used Mobiloil. *You* can follow their lead by making the Mobiloil Chart your guide and asking for Mobiloil every time you buy oil.

Mobiloil *again!*

REG. TRADE MARK

Announcement of the Vacuum Oil Company, Ltd., Caxton House, London, S.W.1

CLUB ITEMS

Reports and Announcements of Sporting and Social Events.

R.A.C. PERMITS.

The R.A.C. has issued the following permits:—Open, July 22nd, hill-climb, Uxbridge, A.S.G.; August 6th, speed trials, Slough, and D.M.C. Closed: July 29th-30th, reliability trial, Surbiton M.C.; July 30th-31st, summer night trial, J.C.C. South-Western Centre; August 1st, race meeting, Whitgift (Croydon) and D.J. M.C.

CUMBERLAND COUNTY M.C.C.

Over 60 members and friends took part in the club's recent social run, when a picnic was enjoyed on the shores of the estuary, between Silloth and Allonby. In aid of the Carlisle Home and Workshops for the Blind, a motorcycle football match between the Cumberland Club and the Carlisle Ace team will be played on the Carlisle Rugby Union ground, Warwick Road, on Thursday, July 28th.

SCOTTISH MORGAN CLUB.

The club held a run to Stonehaven on July 10th, when there was a good attendance of members. A very enjoyable picnic on the shores of Loch Katrine was held. The next event is an inter-club meet at Peddiebank on August 7th. Club bags are now available at 2s. each, and Morgan owners interested in the club should communicate with Mr. F. P. Bradshaw, 211, Gt. Western Road, Glasgow, C.4.

LONDON M.C.

The third annual inter-club gymkhana will take place on July 24th, starting at 12 p.m. from the Anglers' Rest Hotel, Bell Weir Lock, Egham. There will be a trick-riding exhibition by Gus Kuhn on his T.T. Velocette and by Vernon Pickering on a super-sports B.S.A. Car events will be included. Admission will be by programme (6d.), to be obtained from the marshals on entrance to the field, and there will be free parking space.

TO CLUB SECRETARIES.

Reports and announcements intended for inclusion in next Friday's issue of "The Light Car and Cyclecar" must reach us by the first post on Monday morning.

WHITGIFT (CROYDON AND D.) M.C.

The August race meeting will be held at Addington, near Croydon, on Monday, August 1st, the first race being at 3 o'clock. There is a five-lap race for three-wheelers and a 10-lap race for cars, and also a 20-lap race for all-comers, known as the Addington Grand Prix. The length of the course is one mile and 50 yards, with one hair-pin bend and a gradient curve on an incline. All the races will be scratch, and practising before the event is compulsory. The event is open to all members of the South-Eastern Centre, and further particulars can be obtained from the hon. sec. of the meeting, Mr. H. C. Jeffrey, 191, St. James' Road, Croydon, and entries must be sent to him not later than July 25th.

SURBITON M.C.

The Surbiton Motor Club's London to Barnstable open trial will this year be run on July 29th and 30th. It is open to motorcycles and three-wheelers, while the car entries are restricted to members of the Club, the Brighton and Hove M.C., the Essex M.C., the West Surrey Automobile Club, and the Woking and D.M.C. and C.C. The premier awards are the Surbiton Challenge Cup and special silver cup, the Nesbitt Cup and the Olaf Cup, as well as the usual silver and bronze medals and silver awards for team prizes. The start will be at Kingston at 10 p.m., and the route will be through Guildford, Farnham, Andover, Glastonbury, Bridgewater, Portlock and Beggars' Rest, finishing at Barnstable at about 0.40 a.m. on July 30th. An alteration coming into effect this year is the tightening up of the time allowance to one minute early and two minutes late. Entries, which close today, Friday, July 22nd, should be sent to the hon. sec. and organizer for the event, Mr. A. Warren Lambert, 142, St. Margaret's Road, St. Margaret's, Middlesex.

J.C.C. SOUTH-WESTERN CENTRE.

The Junior Car Club, South-Western Centre, is holding a summer night trial on July 30th and 31st over a course of approximately 150 miles. The start will be from the garage of F. A. Hendy and Co., Ltd., Above Bar, Southampton, at 11 p.m. The course is stated not to be "too stiff" and entry forms and full particulars can be obtained from the hon. organizing secretary, Mr. Gordon Hendy, 68, Above Bar, Southampton; entries close on July 25th.

FORTHCOMING EVENTS.

July 23.

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

Kent and Sussex L.C.C. Lewes Speed
Trials.
Chester Centro A.C.U. Race Meet.

July 24.

Morgan Club Run to Saltdean, Sussex.
London M.C. Gymkhana at Egham.
Austin Seven C.C. (London Bianchi).
Run to New Forest.

Leeds M.C. Post Hill-climb.

July 25-30.

Scottish Six Days' Trial.

July 29-30.

Surbiton M.C. London-Barnstable
Trial.

July 31.

Spanish Grand Prix.

August 1.

B.A.R.C. August Open Meetings.

CATFORD AND D. M.C.

The full list of events for July, August, September and October includes a gymkhana on July 24th, a competition run on August 7th, the secretary's mystery run on the 28th, a run to Brighton, September 25th, and the annual trial on October 2nd. All the runs start from the Verdant Lane Garage not later than 15 minutes after the times stated on the fixture list.

ESSEX M.C.

The Essex Club's Brooklands meeting (closed) will be held on August 20th, and racing will commence at 2 p.m. The events include the Essex 50 miles handicap, the Essex senior long handicap (three laps), and the Essex junior long handicap (three laps for cars up to 2,000 c.c.). Entries must reach Mr. E. J. Bass, 40, Chancery Lane, W.O.2, by 5 p.m., August 5th.

UXBRIDGE M.C.

On July 10th the club held its annual trial for the Hayliss Cup over a very sporting course composed mostly of fields, commons, water-splashes and sand. This trial was run in conjunction with the Ilfracombe Motor Club, but each club competed for its own awards. Several drivers were delayed in the "prairie" section, but the first hill proved to be easy. However, the second (on which a steep and rocky crest was held at Ilfracombe) caused a number of drivers to fail. The total entry was approximately 27 and the Hayliss Cup and special silver medal was won by C. H. Lawford (Fiat Nine).

MIDLAND C. AND A.C. 24-HOUR TRIAL. Provisional Results.

Jordan Trophy for the best performance by a passenger machine under 500 c.c.—J. G. Chippendale (1,075 Morgan).
Gold Medal—J. C. Chippendale (1,075 Morgan).
Silver Medals: G. H. Goodall (1,075 Morgan), H. F. S. Morgan (1,075 Morgan), J. H. Gem (1,094 Senéchal).

COLWYN BAY RESULTS.

Braid Challenge Cup (for fastest time of the day by a car under 1,500 c.c.)—B. H. Davenport (1,496 c.c. Fraser-Nash). Junior Cup (for fastest car under 1,100 c.c.)—E. L. F. Mucklow (1,098 c.c. G.N.).
Standard touring cars not exceeding 2,000 c.c.:—Mrs. A. M. Pemberton (1,496 c.c. Fraser-Nash), 49.18 m.p.h.; R. F. Summers (2,986 c.c. Invicta), Standard sports cars not exceeding 3,000 c.c.:—G. L. Jones (1,496 c.c. Bugatti), 52.35 m.p.h.; R. F. Summers (2,986 c.c. Invicta), Standard sports cars not exceeding 2,000 c.c.:—G. L. Jones (1,496 c.c. Bugatti), 51.72 m.p.h.; Mrs. A. M. Pemberton (1,496 c.c. Fraser-Nash), S. F. McGowan (1,084 c.c. G.N.), Standard sports cars not exceeding 1,500 c.c.:—S. E. McGowan (1,084 c.c. G.N.), 50.55 m.p.h.; G. L. Jones (1,496 c.c. Bugatti), Mrs. A. M. Pemberton (1,496 c.c. Fraser-Nash), and R. M. Jackson (1,098 c.c. Fraser-Nash), equal Standard sports cars not exceeding 1,100 c.c.:—C. P. J. Churton (1,099 c.c. Amicar), 41.12 m.p.h. Three-wheeled cyclecars:—H. C. Jones (Morgan), 57.35 m.p.h.; H. C. Albion (Morgan). Any car not exceeding 3,500 c.c.:—R. Mays (1,998 c.c. Mercedes), 67.67 m.p.h.; B. H. Davenport (1,496 c.c. Fraser-Nash), D. Higgin (2,986 c.c. Vauxhall). Any car not exceeding 2,000 c.c.:—R. Mays (1,998 c.c. Mercedes), 66.67 m.p.h.; B. H. Davenport (1,496 c.c. Fraser-Nash), E. L. F. Mucklow (1,098 c.c. G.N.). Any car not exceeding 1,500 c.c.:—E. L. F. Mucklow (1,098 c.c. G.N.), 59.61 m.p.h.; Mrs. A. M. Pemberton (1,496 c.c. Fraser-Nash), G. L. Jones (1,496 c.c. Bugatti). Any car not exceeding 1,100 c.c.:—E. L. F. Mucklow (1,098 c.c. G.N.), 60.00 m.p.h.; C. P. J. Churton (1,099 c.c. Amicar), V. McLaughlin (1,098 c.c. Eric-Longdon).



TAKING THE
HAIR-PIN.

J. C. Chippendale (Morgan) makes a star performance on Urry's Pet in the Midland C. and A.C.'s 24-hour trial.

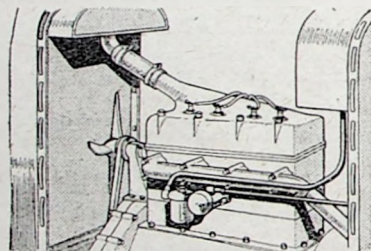


We invite readers to send us hints gained from their own experience for inclusion in this feature. Five shillings will be paid to the sender of any hint published, but we cannot undertake to return contributions not used.

An Air Lock Danger.

Mysterious troubles are caused by air locks in a petrol pipe, engine stoppages being caused for reasons which it is frequently most difficult to trace. One simple cure for the trouble, if it is suspected, is to blow through the tank filler orifice, thus forcing out the obstructing bubble of air.

Similar troubles are caused by petrol-vapour locks started in a pipe running close to an exhaust manifold. The liquid, on coming into the hot part of the pipe, vaporizes and forms an obstruction to the flow. The cure, in this case, is simple; if care be taken to see that the pipe leading to the float chamber does not run near or parallel to the exhaust outlet, vapour locks are very unlikely to form.



Air locks are likely to form in a petrol pipe which runs adjacent to the hot parts of an engine.

Facilitating Repairs.

Not many private garages can boast of an inspection pit, although it is frequently something of a necessity when working underneath a car.

The use of two ramps, which raise one end of the car when the wheels are run up on to them, provides a good substitute for a pit, and when large repair jobs are to be undertaken at home it might be worth while to construct a pair of ramps for the purpose.

The length of the ramp should not be less than about 5 ft., in order to give the car a good run and so that the gradient will not necessitate too much effort in handling the car, and it may slope up to a height of about 1 ft. Stops should be placed at the raised ends to prevent the car running over, and guides may be screwed to the sides to facilitate the task of running the car up the inclined surface.

Screws used to join the various parts should be countersunk so that the tyres will not be cut by the screw heads.

B52

A Handy Cleaning Bath.

Most light-car owners who carry out their own repairs will have in the garage a paraffin bath in which small metal parts are washed during engine overhauls.

The utility of such a cleaning bath may be increased if it be fitted with a false bottom which will allow dirt to filter to the bottom and leave the parts clean. This will obviate the need for a second washing in paraffin to remove the grime which a first washing in the bath has loosened.

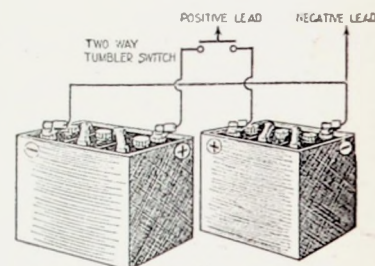
The false bottom should be drilled freely to allow the liquid to circulate and should be arranged to leave about an inch space at the bottom of the bath in which sediment may collect.

A Battery-protection Hint.

Very great demands are made upon the battery of a modern car when it is required to give a sudden large discharge, instead of a normal discharge for a longer period, for which purpose the average accumulator is constructed. If the dynamo be used for a sufficient time to make up for the energy lost in

discharge, the battery will have to be charged at well above its proper rate, thus seriously shortening its useful length of life. There is no reason why two batteries should not be charged off the same dynamo and where abnormal usage is anticipated the scheme has much to commend it.

The additional battery may easily be connected in series with a switch to place the cells in series with the dynamo when required. A two-way tumbler switch will enable the driver to proportion the charge correctly between the two batteries, and if he



Two batteries used in the electrical equipment will prevent the possibility of total discharge.

desires he may keep each for one specific purpose and judge its charge accordingly. It is a good plan to use the larger cells for starting and the smaller battery for the lamps and working the dashboard instruments which need but small current. In this way the amount of charge and discharge will be fairly proportioned between the two batteries.



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.

N.D. (Dover).—The Monthéry track measures 2½ kilom. for one circuit. It is within a mile of Arpajon.

N.S. (Wanstead).—Brush applied lacquer may be used on the bodywork of your car, but the results obtained by this means would hardly equal those given by the use of a proper spraying plant in the hands of an expert.

M.J. (London, E.C.).—If you are certain that the drop in the level of the electrolyte in your battery is due to evaporation, and not to actual leakage of the liquid, the tops of the plates should be covered by the addition of distilled water. Rain water, properly filtered and strained of sediment, may be used if no distilled water is to hand. If, however, actual electrolyte has been spilled during the working of the battery, or if leakage has occurred, it will be necessary to add acid solution made up to the correct s.g. advised by the makers.

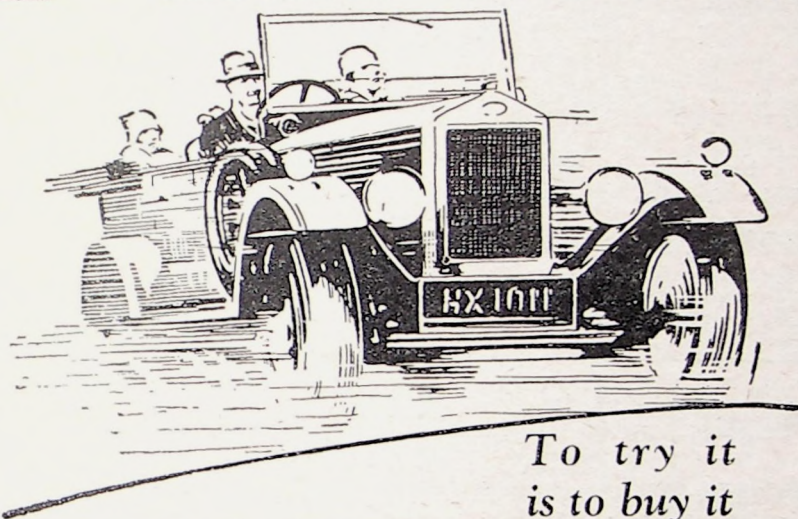
T.G. (Hexham).—As the steering of your car is of the worm and wheel type it should, theoretically, be irreversible. The fact that you can revolve the steering wheel in one direction by pulling on the road wheels need not, however, be regarded as a fault.

O.C. (Eltham).—In all probability, the trouble experienced with the clutch of your car is due to no more serious a fault than the presence of a certain amount of grease or oil on the clutch faces. The fabric-lined surfaces should be washed with petrol to effect a cure.

M.N. (Leyton).—From the symptoms mentioned it would appear that an air leak is present in the intake of the carburetter. The flange joint should be remade, care being taken to choose a gasket of the correct size. A jointing compound such as gold size will assist in forming an air-tight joint.

G.L. (Cardiff).—Only when new jets are unobtainable, and as an emergency measure, should carburetter jets be reamed out. It is a good plan to have a few spare jets always at hand so that trials may be made to obtain maximum petrol economy and full power. As a matter of fact the symptoms you mention indicate that a smaller jet than that at present in use would be needed.

SUPREME IN THE £11-TAX CLASS



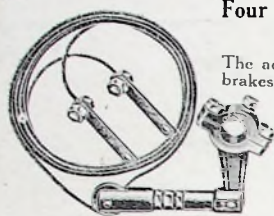
TRIAL RUNS from
your own home arranged
upon request without
any commitment on your
part.

NO car coming within the £11 tax class offers you such value as the 11.22 Wolseley. The quality policy which has made the Wolseley world renowned for the past quarter-of-a-century guarantees this fine small car. To try it is to buy it. Price £215 for the open car, £300 for the Saloon. Also obtainable by hire-purchase; write for terms and catalogue.

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WOLSELEY MOTORS (1927) LTD., ADDERLEY PARK, BIRMINGHAM.

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Four Wheel Brake Control for Austin Seven.

The advantage of operating all four brakes from one pedal is generally recognised.

THE BODELO

enables Austin owners to do this without alteration of car mechanism. Easily fitted and costs only 30/- Leaflet on request.

BLACKMAN PETROL FILTER.

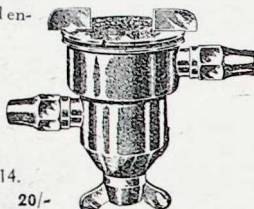
Prevents choked carburettors and ensures sweeter running.



Twin filtering gauzes separate all impurities from the petrol.

No. P7/14.

Each .. 20/-



THAWPIT removes TAR, OIL, and GREASE STAINS.

A few light rubs is all that is necessary. Silken goods and fabrics may be treated without the slightest damage to the material.

No. C36/100 Per bottle 1/6

"Challenge" Cleaning and Polishing Cloth.

Supplied in rolls of from 6 to 50 yds. Approx. weight of 50-yd. roll 2 lb.

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No. C36/3b 12½ yds. .. 1/8
No. C36/3c 25 yds. .. 3/3
No. C36/3d 50 yds. .. 5/6



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A compact outfit for 2 persons, contained in strong metal case with waterproof canvas cover. Complete with Vacuum Flask. Size 12 x 9½ x 9½ in.

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A similar outfit for 4 persons, with "Rambler" Aluminium Kettle instead of Vacuum Flask. Size 14½ x 10½ x 9½ in.

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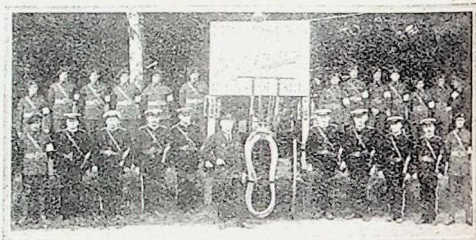
Obtainable through all
Garages and
Motor
Accessory
Dealers.

AROUND THE TRADE.

The June issue of "The Accessory," the interesting monthly publication issued by Brown Bros., Ltd., contains some useful information on cylinder honing, describing the machines for this work and their method of operation.

J. F. Taylor's (London), Ltd., 142, Great Portland Street, W.1, have been appointed sole selling and stockists agents for London and district for Dunbar stainless-steel bumpers. The prices are:—Double bars, £4 7s.; single bars, £3 15s.; quarter corners, in pairs, £4 7s. per pair.

P. Pike and Co., Ltd., 7, Bath Road, Exeter, who are the Singer distributors for Devon and parts of Somerset and Cornwall, have just taken delivery of their 300th 1927 car. They point out that the delivery of 300 cars in nine months into a small area of exacting demands is a creditable performance, for actually their first 1927 car was not delivered until the end of October.



The Pyrene fire brigade and their military assistants who were responsible for the precautions against fire in the car parks at the Hendon Air Pageant, the Aldershot Tattoo and the Aldershot Horse Show.

The Benjamin Electric, Ltd., Brantwood Works, Tait Road, Tottenham, N.17, have sent us a copy of a booklet entitled, "What the Driver Should See." It deals with the working principles of the Boyce moto-meter and illustrates the various models. Particulars are also included of the Benjamin radiator shutter. The offices and works of the above concern will be closed for the annual holiday from August 1st to 6th, inclusive.

Donnet Motors, Ltd., 42, Albemarle Street, W.1, ask us to announce that in consequence of the success of the new scheme inaugurated by Automobiles Donnet, of Paris, of hiring cars on the "drive-yourself" principle, and the enormous number of applications they have received from this side, they regret that all the cars available for English requirements have been booked up for the months of July, August, September and October.

In sending us an interesting little booklet dealing with the Zenith air filter, the Zenith Carburettor Co., Ltd., 40-42, Newman Street, London, W.1, point out that the Peugeot which won the Coupe de la Commission Sportive at Montlhéry on July 2nd was fitted with a Zenith carburettor. The car covered the 250-mile course at an average speed of 65 m.p.h., with a petrol consumption of 21.6 m.p.g. The third car home, a Bugatti, was also equipped with a Zenith carburettor.

The latest additions to the series of oiling charts published by the Vacuum Oil Co., Ltd., Caxton House, Westminster, London, S.W.1, deal with the lubrication of the 10 h.p. and 12-35 h.p. Swifts and the Trojan. As with the other charts already in circulation, the lubrication details have been carefully worked out, and the information given can be taken as authentic and accurate. The Vacuum Oil Co., Ltd., will be pleased to send, post free, copies of these charts to owners of the cars with which they deal.

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.

CHEVRON CORD TYRES
are built for
HIGH SPEED with SAFETY
and **DURABILITY.**

1ST They were fitted to the
EXCELSIOR Car which
averaged $57\frac{1}{2}$ m.p.h. for
24 hours in the **BELGIAN**
GRAND PRIX at SPA (July 9-
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A NEW FEATURE:

Specially designed **ENGLISH**
coachwork embodying high-class
finish and maximum comfort avail-
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2-seaters from £100
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OVER 500 VICTORIES
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Unsurpassed for general reliability and efficient road
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Junior Grand Prix

37th Lightning
Long Handicap

CURRENT PRICES:
4-cylinder Type 40 Touring
Model, Chassis only
£325

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Type 37, with standard 2-
seater racing body
£550

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CELLULOID

Brushing Lacquer

1. Anyone can use it. We issue a special instruction book containing full directions.
2. You can paint your car in the morning and drive it in the afternoon.
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CELAMEL Black, Colours and Glaze (or Varnish).	Celamel Rubber and Set Vulcanized Brushes.
7/- Tins. Approx. 1 pint.	1 1/2 in. 1/6
13/- " " 1 quart.	2 in. 2/-
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For rubbing down on last coat of Celamel to remove traces of brush marks. 6d. per sheet.

New Booklet! Price 3^d.

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

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I have to-day despatched to you two 27 x 4-40 covers for retreading. The one retreaded by you in January last has been run side by side with a new one, and I consider your retreads the best wheel by far.—G.T.S.

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Price 6/10

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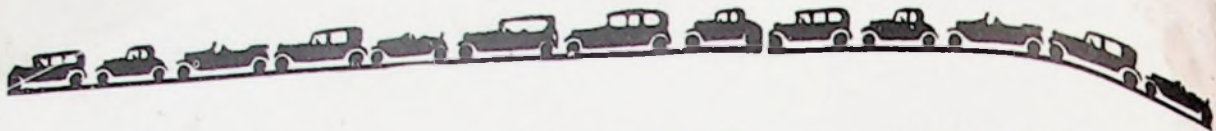
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