



To every Motorist

The best plug for your engine—
whatever its country of origin—

LODGE

It assists in a wonderful manner with:—

Easy starting,
Perfect slow running,
Rapid acceleration
and
Utmost power.

Not only can you not buy a better plug at the same price, but you cannot buy a better plug at any price.

Lodge C3
the best plug for
nearly all engines
screwed metric
5/-

Sold everywhere, in
sealed red metal box.



It is important to use the correct type of plug. Ask at your garage to see the Lodge Plug Chart, which shows the correct patterns of Lodge plugs for all makes of motor cars, or send a postcard for Folder F2, which also gives this information, to:
LODGE PLUGS LTD., RUGBY.

LODGE PLUGS ARE FOUND ON ALL THE BEST CARS.

The LEADER of the 11.4 hp CLASS

The 11.4 h.p. Citroën represents the highest quality car in its class.

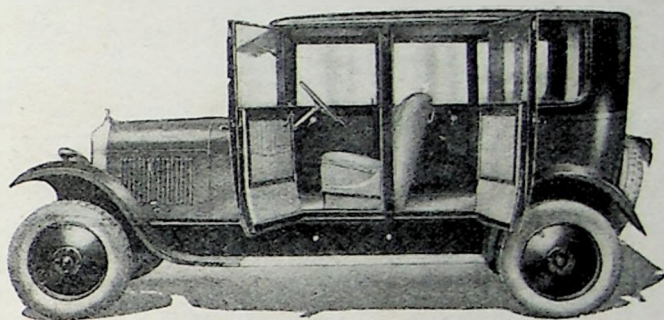
Years of experience of production of this model have enabled the Citroën engineers to evolve a car which, for performance and economy, is comparable with automobiles of far greater initial cost.

The two models here illustrated are "Supreme Closed Car Value." The Saloon has 4 doors and 4-wheel brakes. The Coupé gives three persons complete protection in inclement weather, whilst in summer it can be used as an open car.

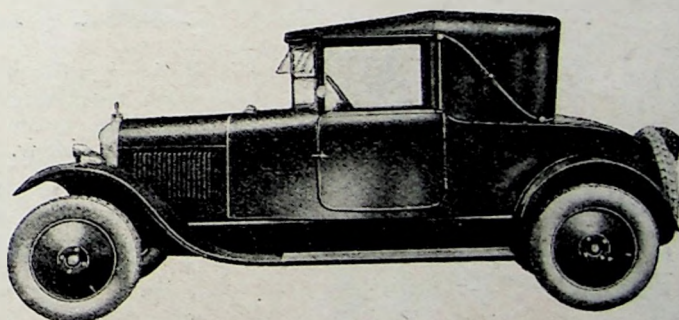
Equipment is exceptionally complete, including: Electric Lighting and Starting, 5 Lamps, Electric Horn, 5 Wheels and Tyres, Wheel Carrier for Spare Wheel and Tyre, Shock Absorbers, Automatic Windscreen Wiper, Boyce Motometer, Petrol Filter, Licence Holder, Inspection Lamp, Kit of Tools, Oil Gun Chassis Lubrication, Facia Board carrying the instruments—Clock, Speedometer, Dash Lamp, Ammeter, Oil Gauge, Air Strangler, Switches, etc., etc. Saloon has Sun Shield, Window Winders, Spring Blinds for rear window, Carpeted Rear Floor, Driving Mirror, Scuttle Ventilator Controls, and Interior Lighting.

Any of the 500 Citroën Agents throughout the country will

CITROËN



11.4 h.p. Saloon, 4 doors,
F.W.B. Fully equipped.



11.4 h.p. Coupé Three-seater.
With Folding Head and full equipment.

Supreme Car Values in their Class!

Send for the Citroën Book 18.

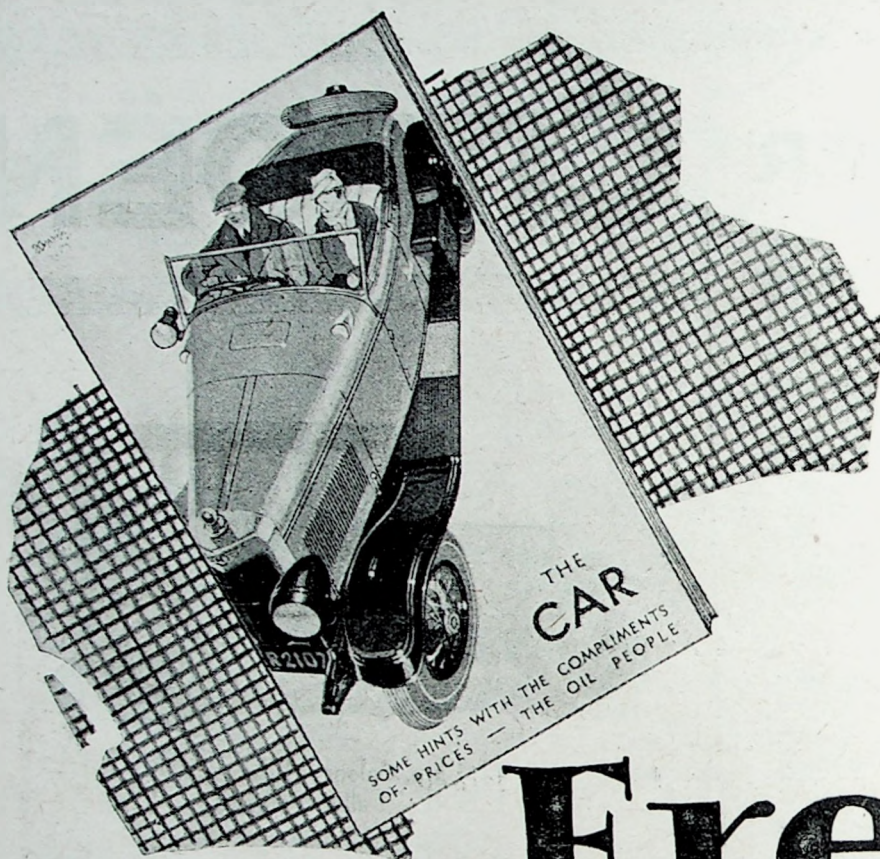
CITROËN CARS LTD.,

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

M & C 105

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

A1



Free

This handsomely illustrated manual—packed with interesting facts and useful 'wrinkles'—is awaiting every motorist. Cut out and post the coupon below.

Whatever you run—whether it be a Rolls-Royce (the makers of which use and recommend Motorine)—or a 7 h.p. light car, you will find something in this booklet, perhaps a lot, that you didn't know before. A particularly interesting chapter deals with tracing troubles.

A copy is yours for the asking—free and post free.



MOTORINE

Note: The Motorines de Luxe were previously known as Huile de Luxe Summer, Winter and Zero.

Clip it out



COUPON

To PRICE'S, The Oil People, Dept. EE22, London, S.W.11

Please send your manual, "The Car." I'm interested.

Name _____

Address _____

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

Halfpenny stamp if unsealed.

Startling reductions

may very easily be startling increases if reductions are analysed. We could make these startling reductions if, for instance, we substituted imitation leather for the real article. We could stuff our cushions with fibre or a mixture of fibre and hair, but we use nothing but real hair. Our body, that is, the Jowett body, is panelled with aluminium, which will not rust however much the paint is chipped. We could use black iron, which is infinitely cheaper, but you would be the loser.

These points are worthy of your notice when buying a car.

There is nothing cheap about a Jowett except its running costs, and these are definitely lower than any car produced.

We have nothing startling for the Show, in fact to-day's deliveries are identical with our Show models, so that you can buy a Jowett now and know that it will not be out of date in a few weeks' time.

The prices are reduced as low as is possible with Jowett finish and equipment, and are set forth below.

You may take advantage of our own private deferred payment system if you like. It is the fairest ever devised.

Our literature, like our car, is unique. May we send it?

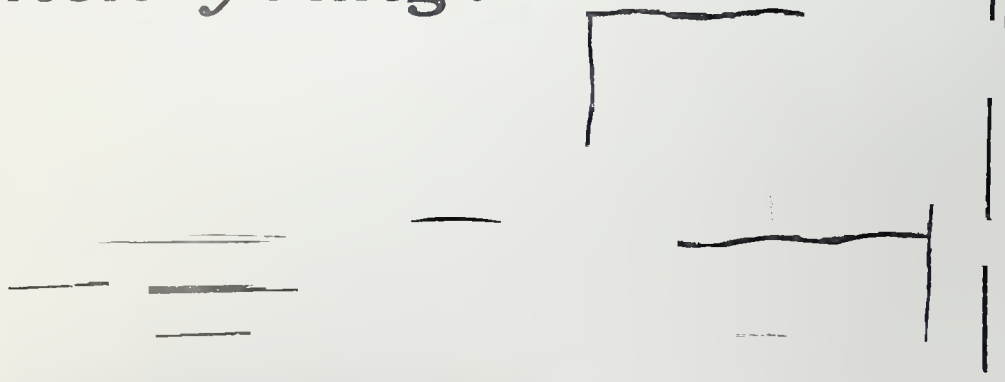
Short two, £134. Long two, £142. Chummy, £142.

Full four, £145. Saloon, £170.

Dunlop Balloons and Stewart Speedometers standard.

JOWETT CARS LTD., IDLE, BRADFORD

*Nourish them well
when young!*



THE
STERN
ORACLE

to

AUSTIN OWNERS

The Austin Company start you on the right lines by delivering your car filled up with STERNOL WW—the oil which they themselves have used exclusively for the past nine years. Moreover, they recommend you to keep on using it.

Every Austin starts life on STERNOL WW HEAVY. In the earliest days of its existence, when its engine requires every care bestowed upon it, it is given this soothing lubricant. And its makers recommend you to let it grow up on it!

Through boyhood, in adolescence, and even during old age, it will thrive on STERNOL WW HEAVY as it will thrive on no other oil.

NINE YEARS CONSISTENT EXPERIENCE OF STERNOL WW HEAVY HAS LED THE AUSTIN MOTOR CO. TO USE THIS OIL EXCLUSIVELY AND TO RECOMMEND ALL AUSTIN OWNERS TO DO THE SAME.

Sternol WW
HEAVY
MOTOR OIL

Makes Engines Purr Like Pussies



DO LIKEWISE

This is what one Austin owner says about STERNOL WW.

"The Austin Co. start the life of their engine (the most delicate period) with STERNOL WW, hence my reason for adhering to your product and I have every intention of continuing to do so."

Follow the advice of other Austin owners and particularly of the famous makers of your excellent car.

The Austin Co. not merely approve, but RECOMMEND Sternol WW. They themselves use it exclusively.

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

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

Ready-to-Erect Garages

GLIDING OUT-OF-WAY DOORS

FREE INSURANCE AGAINST FIRE

FREE PLANS FOR COUNCIL APPROVAL

DEFERRED TERMS CAN BE ARRANGED



GLIDING DOORS

from
10
Guineas

You merely have to erect it.

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

BUILT TO LAST AND TO PLEASE.

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

Gliding Out-of-Way Doors that move at a child's push, occupy no room and obviate hinged door weakness. Free Fire Insurance Policy. Free Plans for submitting to Council. Sizes for all popular makes of Cars. Deferred Terms arranged. Quick Deliveries. Garages can be inspected at works. SEND FOR FREE FOLDER AND STATE REQUIREMENTS. Thornbers make all kinds of Portable Buildings for all purposes—Army Huts, Shops, Pavilions, Institutes, Bungalows, Poultry Houses, etc. State requirements—we will send free folders.

THORNBERS
For EVERYTHING in WOOD

9, MYTHOLMROYD, Yorkshire.

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



New
Send for
free
Folder

Oakeys' helps to motorists

"WELLINGTON" LIQUID METAL POLISH

gives a supreme, lasting
burnish to ALL METALS
and GLASS—motor mirrors,
lamps, windows, screens, etc.
In tins,
3d., 4½d., 7½d., and 1/3.
Also in ½, 1, and 1 gallon cans.

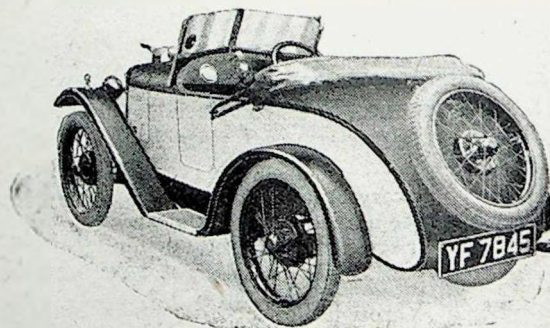
"WELLINGTON" VALVE GRINDING PASTE

FINE or COARSE.

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



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



TAYLORS

SPECIAL SPORTS AUSTIN 7, £165

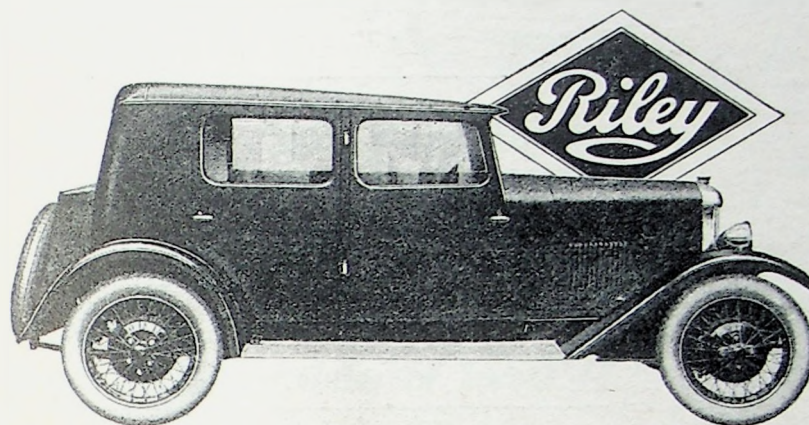
HERE is a real Thoroughbred (coachbuilt—not mass produced) at a price only slightly in excess of the mass production article. This snappy 2-seater is built upon the special Austin 7 Sports Chassis and it is an exclusive Taylor design. The body allows ample leg room which can be varied to suit your individual requirements. The luggage accommodation is excellent, ample space being available for three suit cases. An extra low centre of gravity makes speed both safe and enjoyable, and the V shaped windscreen adds to the general attractiveness of the car as a whole. We can give early delivery of this fine little sports car which can be finished to your own choice of colours.

ALL MAKES SUPPLIED FOR CASH, EXCHANGE, OR UPON OUR LIBERAL "NO DEPOSIT" E.P. TERMS

The following commend themselves for value:
AUSTINS, 7 h.p., from £135 JOWETT, 7 h.p. £150
SINGER £148-10 to £350 ROVER 10/25 £220
Motor Cycles or used Cars taken in part payment for New Cars.

H. TAYLOR & Co., Ltd.,
49, 50, 52 & 53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.7.
Telephone: Kensington 8556/8 and 6640. Telegrams: "Dynametro, Southkense."

BUILT TO FILL A VACANT SPACE



BECAUSE cars were too large or too small to meet modern needs, Riley Engineers designed and built the Riley Nine.

A truly great small car to seat four in spacious comfort, travel unfaltering miles at speeds the enthusiast demands, and steer and brake with that precision which denotes the thoroughbred.

No other car priced so low provides an engine developing three times its rated power with

ease of vibrationless performance, a four speed gear box with a third gear as silent as the direct top, steering that responds to the movement of a finger, semi-elliptic springs that damp out pot holes and eliminate sway, brakes on all four wheels that make safety a law, and the accuracy of workmanship that has built up Riley reputation everywhere fine cars are used.

No other car so surely fills the modern need for comfort, performance, and above all, low running costs.

THE
RILEY NINE
 'MONACO' FOUR DOOR FABRIC SALOON

£285

Price now and for 1928

RILEY (COVENTRY) LIMITED

FOLESHILL—COVENTRY

LONDON — 42, North Audley Street, W. 1

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.

(Patent 21008/26)
GEE'S WHEEL WOBBLE ELIMINATOR.

Reproduced by permission, from
"The Motor."

Completely Cures "Wheel Wobble"

A Real and Complete Solution to that very tiresome bugbear of motoring, effected by the central control of both steering arms. Makes driving a real pleasure, free from danger and free from discomfort. Easily fitted. Strongly, yet simply made. Soon pays for itself by prolonging life of front tyres. Once adjusted no further attention is required.

GEE'S Wheel Wobble Eliminator

Kills Wheel Wobble at its

Guaranteed to

PREVENT WOBBLE IN NEW CARS. MINIMISE ROAD SHOCKS
ON STEERING WHEEL. ELIMINATE WOBBLE IN OLD CARS.
REDUCE WEAR ON ALL STEERING PARTS. POSITIVELY
EFFECT A PERMANENT CURE.

When ordering please state name, H.P., and year of car, also distance between axle and track rod.

Sole Manufacturers:

BEBINGTON MOTOR ENGINEERING Co., Ltd., Bebington, CHESHIRE

TELEPHONE: Rock Ferry 470.
GRAM: "WOBELKURE, Birkenhead."

are
Pleased

(A Splendid Testimonial.)
May 25/27.

Messrs. Bebington Motor Co.,
Bebington.

Dear Sirs,
A short while ago you supplied
us with your Gee's Wheel Wobble
Eliminator.

This was fitted to a 25/50 h.p.
Talbot Saloon weighing over 2 tons,
which suffered badly from this
annoying trouble at speed, in excess
of 30 m.p.h. We are pleased to
inform you that your device has
completely cured the defect, and we
are more than pleased with the
result. It is quite a refreshing
change to meet with a gadget which
really does what it claims to.

Yours faithfully,
T. Whittingham & Wilkin.

1928 MORGANS

NOW AVAILABLE.

To all Purchasers of new
machines from this date we
GUARANTEE a refund
of the amount of any reduc-
tions in price that may be
announced at the MOTOR
SHOW. **WHY WAIT?**

DEFERRED TERMS ARRANGED.
TRADE SUPPLIED. ALL SPARES.

Phone: Clissold 2408. **HOMAC'S** Send for Lists,
MOTOR AGENTS

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

COAN'S

ORIGINATED MOTOR NUMBER PLATES

Solid Cast Aluminium. Silver Polished Numerals.
Regulation Size. Express Service.

THE "CONE" MAT.
THE MOTOR MAT THAT MATTERS

For value, class, and wearing test
Coan's Plates and Stepmats prove the best.

Also NEW REAR LAMP.
Write for Booklet.

Telephones:
Clerkenwell
4466
(4 lines).

R.W. COAN LTD
The Aluminium Foundries
219, Goswell Road
LONDON, E.C.1

Telegrams:
"Krankases"
Borb
London."

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

1928 Prices Announced

Why wait until the Show.

ROVER 10·25 h.p.

2-seater ..	£220
4-seater ..	£225
Semi-sports ..	£260
Saloon ..	£250

or not to be

THAT is a question that is facing a good many men just now. Shall they rob their bank balance and get the car of their hearts, or shall they keep the balance and kiss good-bye to the car?

Well... if we may be permitted... **DO NEITHER.** Come to the Service Company and get your car this way.

First choose it. Then pay the first instalment down. Then drive it away and enjoy possessing it.

Every month pay off a little of the balance that's owing. Every month there will be less to pay and you'll never miss the small, unobtrusive instalments as they go out.

During the whole period you are protected because we promise to help if you should encounter a bad period.

This is a simple and straightforward plan. We know it and hundreds of our customers have told us as well. Come yourself and get full particulars... come to-day... come now.

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

No Deposit Scheme.

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

AUSTIN 7 h.p.

Chassis ..	£ 99
Chummy ..	£135
Saloon ..	£150

JOWETT.

Short 2-seater ..	£134
Long 2-seater ..	£142
Chummy ..	£142
4-seater ..	£145
Saloon ..	£170

SPECIAL SEPTEMBER BARGAINS

CITROEN, 7 h.p., 1926, Cloverleaf, very fine £72-10
order, tax paid ..

AUSTIN CHUMMY, 1926, exceptionally fine £105
order ..

CLYNO, 1926, 2-seater Royal, like new.. £118

ROVER, 1926, 9 h.p., super model, insurance
paid, many extras, condition as new .. £138

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

Telephone: Holborn 0666 (3 lines).

Telegrams: "Admittedly, London."

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

Are you a regular reader of



Motor ?

The National Motor Journal

**If not, buy a trial copy
this week. Here are
some special features of
the Sept. 6th issue:**

TREACHEROUS ROAD SURFACES.

A Matter that Calls for Public Inquiry.

DANGEROUS LOITERING.

The Problem of the Driver who Holds up Traffic.

AVOIDING CONGESTED ROADS.

Among the Chiltern Hundreds—Between the Oxford and Birmingham Roads.

MAKING MOTORING SAFER.

A Selection from the First Batch of Suggestions.

THE ADVANTAGES OF BUMPERS.

Review of Leading Types. Standardized Heights.

NEW 1927 CARS.

Two Entirely New Standard Chassis. A New Two-litre Six-cylinder Rover. The Lea-Francis 1928 Programme. A New 11.9 h.p. Morris-Oxford. A New American Six-Cylinder Car, the 18.7 h.p. Rugby.

**SPECIAL REPORTS OF ALL
WEEK-END SPORTING EVENTS.**

**TRIAL OF A NEW TRANSMISSION
FREE-WHEEL DEVICE.**

EVERY TUESDAY 4d.

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

NEXT WEEK.

ANNUAL SPORTS NUMBER

**FIGHTING WIND
PRESSURE.**

**WHAT MAKES A CAR
HOLD THE ROAD?**

**STANDARD MODELS
VERSUS
SPORTS MODELS.**

**WHY NOT CHEAPER
SPORTS CARS?**

SPEED WITH SAFETY.

SPORTS CARS OF 1927.

**ACCESSORIES FOR THE
SPEEDMAN.**

**AND ALL THE USUAL
FEATURES.**

MOTORING EQUIPMENT



Standard Model.



Junior Model.

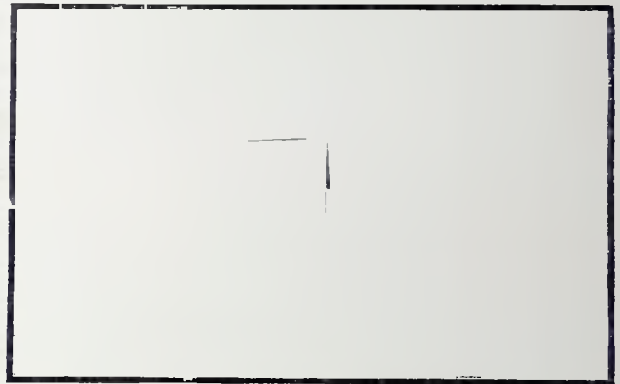
FIRE EXTINGUISHER.

The presence of petrol and oil on your car naturally involves the risk of fire. "PYRENE" Fire Extinguishers successfully combat this risk. They are recognised as a standard form of fire protection for all cars. Your car needs one. For light cars use the JUNIOR Model.

PRICES:

STANDARD MODEL. Filled ready for use and complete with bracket in polished brass, 55/- Nickel or Black plated, 60/- JUNIOR MODEL. Nickel-plated for Light Cars. Filled ready for use and complete with bracket .. 35/-

from such a



Please write for Folder LC/F.

MOTOR CAR BUMPERS

"The Bumper with the Leaf Spring Buffer."



(Patent applied for.)

Every car owner should take advantage of the valuable protection assured by fitting "Pyrene" Bumpers. Their exceptional strength and resiliency is made possible by the quality of the special spring steel, their skilful design, solid construction, and the additional reinforcement of the Leaf-spring Buffer. There is a size to suit your car. Fender Guards are supplied for use where a Luggage Grid or Spare Wheel is carried at the rear of the car.

PRICES:

FENDER GUARDS.

BUMPERS.
In handsome nickel and black finish, made in three sizes, at
£3-10-0 each. £4-0-0 each. £5-0-0 each.

In handsome nickel and black finish, made in three sizes, at
£3-15-0 per pair. £4-5-0 per pair. £5-5-0 per pair.

Please apply for Folder LC/B.

THE PYRENE COMPANY, LIMITED,
9, GROSVENOR GARDENS, LONDON, S.W.1.

Telephone—Victoria 8592 (4 lines).

Telegram—"Pyrenextin, Sowest, London."

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

is one of those men who clean the car once a year and work on it every Sunday.

A commercial traveller, he spends a lot of time on the road. Leisure moments find him in the garage, surrounded by oily waste, greasy spanners and disintegrated portions of his car. He is very fussy about the underside of the crankcase, but thinks nothing of parking the oil filter on the driving seat.

When he *does* wash his car it looks as if it had been under the Niagara Falls. Despite the many times it has been left in the rain with the hood down, the upholstery still looks good. It isn't scratched, it hasn't cracked, it's as fresh as ever, unmarked. Sanders chuckles when people say "it just shows you what good leather upholstery will stand"—because he had that car upholstered with "Rexine" Leather-cloth.

LEATHER-CLOTH

COACH F'N'ISHERS CAN SUPPLY IT IN COLOURS TO MATCH ANY SCHEME OF COACHWORK.

REXINE, LTD., 70, SPRING GARDENS, Manchester

Your September mornings and acts accordingly.

After all, fruitless "cranking" is splendid exercise and is good for you. So also—abortive efforts on the self-starter. Because it ruins your batteries it means splendid business for the "Repairs Depot."

ON THE OTHER HAND both you and your Car would undoubtedly appreciate the supremely easy starting conferred by the

B & B

"The Only Carburetor of its kind."

Because we know that the B & B gives
Easier Starting,

Better Running, and

Greater Economy

we offer you a B & B on our 30 Days' money-back guarantee. Why not obviate the trouble **AT OUR EXPENSE.**

Prices from **£3 - 10 - 0**

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

London Service Agents:
Dartford Eng. & Carriage Co., Ltd.,
23/24, Hylbe Rd., Willemsden, N.W.10.

Fit these for Safety!

EASYFIT" BUMPERS

will make your motoring safer, both Summer and Winter. Congested road 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.

Also Rigid type supplied for many cars from **30/-** upwards.

A Few Representative Models.

For Austin Seven, Front No. 19 35/- Rear No. 19A 35/- pair.
Clyno 11'9 h.p., Front No. 4 40/- Rear No. 4A 33/- pair.
Fiat 9 h.p., Front No. L1/17 55/- Rear No. L1/17A 33/- (full width).
Jowett, Front 50/- Singer Junior, Front 50/- Rover 9 h.p., Front 52, 55/- Rear No. 13 40/- pair. Send for list and particulars of how to get 10% allowance on insurance premium.

EASYFIT" LUGGAGE RACKS

Over 50,000 sold. Better value unobtainable. From **25/-**.
For Austin and Jowett **20/-** Singer Junior **30/-** Write for list

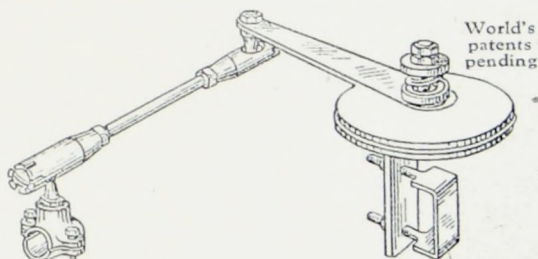
Frank Ashby
& Sons, Ltd.
Stirchley,
Birmingham.

THIS FAMOUS DESIGNER REALISED THE VALUE OF PERFECT STEERING DO YOU?

JOSEPH MAINA (Designer of the Campbell-Napier Racing Car)

"I have just fitted one of your F.E.W. Steering Steadies to my . . . Sports Car, which was given to me by my friend Mr. G. Foresti, at Pendine. Before I had this fitted I could hardly hold my car on bad roads over 45 miles per hour on account of the high ratio of the steering gear and the use of high pressure tyres. You will be pleased to know that I can now hold the car on a bad road at 55 to 60 m.p.h. without any strain on my wrists. During the last month I have done about 8 journeys to Pendine and back, and I found that the difference resulting from the fitting of this Steering Steady is highly beneficial."

THE F.E.W. STEERING STEADY THE DEVICE FOR STEERING PERFECTION



Type "A" for Light Cars - 39/6
Type "B" for Heavy and High Powered Cars - 57/6
On approval against cash FOR 7 DAYS C.O.D. to all parts.
Obtainable from all branches of
East London Rubber Co.
Brown Bros., Ltd.
Thomson & Brown Bros., Ltd.
Hunts, Ltd.
R. Cadish & Sons.
BRISTOL. Fred Burris & Sons.
SOUTHAMPTON. Wadham Bros.
CAMBRIDGE. King & Harper.
MANCHESTER. G. Dugdale & Co., Ltd.
GLASGOW. C. S. Grant, Ltd., Central Garage

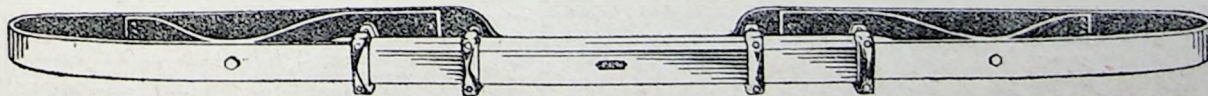
Is far more than a
GUARANTEED CURE
—for Wheel Wobble—for
Wandering—for Shimmy
—and Snatch

50 PER CENT. LESS WEAR
on the Steering Mechanism
ensures a saving in cost of
renewals

BESIDES

imparting a feeling of absolute control at all speeds, allowing higher averages with less fatigue

BETTER TO BUY A GOOD BUMPER THAN TO WISH YOU HAD!



HERCULES BUMPERS £3 - 19 - 6

There's a great difference in Bumpers. You wouldn't knowingly buy a bumper that would crumple in at the first crash. It is of value for you to know where the difference is—to know what makes a good bumper.

A bumper is only as strong as ITS BRACKET. It must be of Steel. The HERCULES Bumpers are ALL STEEL—the bracket—the channel—the reinforced compensating action spring—all the highest grade quality steel Sheffield can produce.

WRITE FOR FULL PARTICULARS

F.E.W. PATENTS & ENGINEERING CO. LTD. RICHMOND 2183
SOUTH AVENUE. SANDYCOMBE RD. KEW GARDENS
HEADQUARTERS AND MAIN FITTING STATION (Accommodation for 100 Cars)

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

Dunhills for safer motoring

Every device that adds to your safety on the road can be obtained from Dunhills. Here are some simple indicators which give unmistakable signals. Fit one to your car.

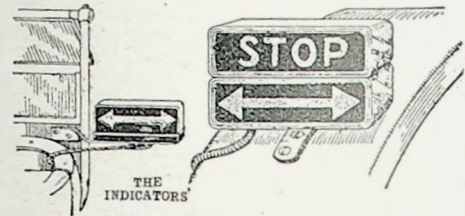


"STADIUM" "STOP" LIGHT.

No. 6659/80. The "STADIUM" Stop Light is operated automatically by the footbrake and gives an unmistakable warning to overtaking vehicles. It is rectangular in shape, and the overall size is 6½ in. Made of brass throughout. Finished Black and Nickel-Plate. Model 6659/80.—Complete with all fittings and 6 or 12 volt bulb... 21/- each

"STADIUM" STOP LIGHT.

No. 6660/80. Gives an unmistakable signal to overtaking traffic. Visible in day time as well as at night time. Entirely automatic, the application of the foot brake brings the "Stop" Light into action and the necessary signal is given to vehicles at the rear. Model 6660/80.—Lamp complete with all fittings and 6 or 12 volt bulb... 10/6 each.

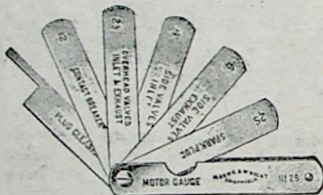


THE EURAL TRAFFIC INDICATOR AND HORN OPERATOR.

The EURAL is the only traffic warning device that can be operated without removing the hand from the steering wheel. By means of a slight pressure on the Eural Horn Operator and one of the smaller rings attached you can sound your horn and indicate direction at the same time.

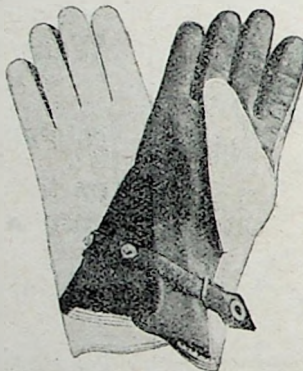
If a Stop sign is required in addition to Left and Right, ask for the Eural Traffic Indicator Model "B." The rear Indicator of the Model gives "Right," "Left," and "Stop" signals, the "Stop" being operated from the brake pedal.

Model "A" (combining Right, Left and Horn) £3 12 0
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MOTOR GAUGE No. 29.

This Gauge contains gauges for correctly setting: Spark gap, contact breaker, inlet valves on side-valve engines, exhaust valve on side-valve engines, inlet and exhaust on overhead valve engines, and plug cleaner. Price 2/9. Post free.



No. 6419/30.

DUNHILLS TRAFFIC GLOVES.

Single palms made of Cape leather dressed tan, backs natural (white) undressed 15/6 pair. Lined cotton fleece.



ROLLS OF CLEANING CLOTH.

Beautifully soft and splendid for polishing. Each roll contains 50 yards. Price per roll, 7/6. Post free. Cheaper quality, 50 yards, 4/9.



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for practically every make of car. Prices on application, stating make and year of car.



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is an ingenious device for intensifying the spark at the plug points by introducing an additional spark gap in the high-tension circuit between the magneto and the plug. Set of four, 5/-; Set of six, 7/6. Post free.

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TOOL BAGS

Tool Bags fitted with Lightning Fastener. The best value obtainable in Tool Bags for hard wear and instant opening. In best black leather 12 in. long 10/6, 15 in. long 11/6.

DUNHILLS DRIVING CUSHIONS.

Prevent any strained position when driving. Made of plain leather cloth. In brown, grey, green, blue and black, 22/6. In antique red, grey, brown & blue, 26/-. For Bucket Seats, 21/-. Post free.

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Free.

The Light Car and Cyclecar



Special
"SAFETY FIRST"
Number

A HIDDEN DANGER.

Narrow bridges all over the country are, one by one, being widened, but there are still hundreds of danger points like that shown above. The rule to observe is: keep well to the left, reduce speed, sound your horn and do not take your eyes off the road ahead until the bridge has been safely crossed.

NOTES, NEWS & GOSSIP *of the* WEEK

Olympia.

The Motor Show opens this year on Friday, October 14th, and closes on Saturday, October 22nd. It will be the twenty-first of the series.

London Roads "Up."

Extensive road repairs are being carried out in certain districts of north-east London. The repairs are mostly of a minor nature to kerbs, drains and so forth, but the workmen appear to occupy large portions of the roadway regardless of traffic conditions. In very few instances are warning signs erected, and motorists should proceed with caution.

This Week.

A large section of this issue is devoted to "Safety First" in all its more important aspects. Particular attention is directed to the advice given to readers of *The Light Car and Cyclecar* by Sir William Joynton-Licks and other prominent public men on how to prevent accidents. Amongst the general features will be found detailed descriptions of the new 9 h.p. Standard and news of Lea-Francis and other programmes for 1928.

No. 770. VOL. XXX.

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LIGHTING-UP TIMES (Rear Lamps) for Saturday, September 10th.

London ..	7.55	Edinburgh ..	8.13
Newcastle ..	8.5	Liverpool ..	8.9
Birmingham ..	8.3	Bristol ..	8.5

Moon—Full, September 11th.

Edgware Road Repairing.

A certain amount of caution is necessary when driving through the lanes on the Watling House estate at Edgware. Two of these are "up," and the narrowness and gradient of the roadway necessitate caution on the part of all motor vehicle drivers.

Road Reopened.

The road from Bettws-y-Coed to Blaenau-Ffestiniog, via Dolwyddelan, is now open to traffic.

Singer's Good Year.

The report and accounts of Singer and Co., Ltd., presented at the 19th A.G.M. on the 8th inst. showed an extremely satisfactory state of affairs, with a profit for the year, after making provision for directors' remuneration and other contingencies, of £140,364 18s. 6d.

Next Week.

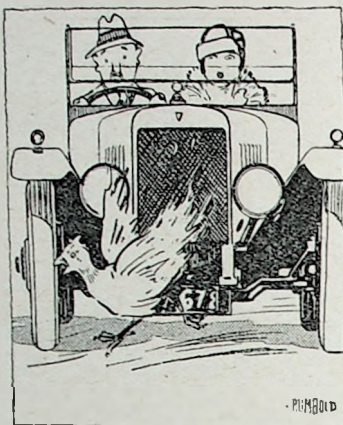
Sporting enthusiasts, whether or not they will be fortunate enough actually to witness Saturday's and Sunday's race at Boulogne, will be interested in our illustrated reports of these events, which are the principal items of a busy motoring week at the French port. Many British competitors are taking part, and it is hoped that they will return with honours. The entries for the Light Car Grand Prix and the Boillot Cup will be found under "Club Items." The first is confined to small cars, the second is open to all categories.

1928 Programmes.

FOR the coming year A.C. (Accedes), Cars, Ltd., Thames Ditton, Surrey, intend to concentrate in the light car class on the 12-24 h.p. four-cylinder and the 12-35 h.p. six-cylinder models. These will be marketed as the 12-24 h.p. two-seater at £299, as the 12-35 h.p. two-three-seater at £410, and 12-35 h.p. four-five-seater, with rear petrol tank, Auto-vac feed and front-wheel brakes, at £450. In addition, the 12-40 h.p. four-cylinder sports tourer, at £375, can still be obtained to special order.

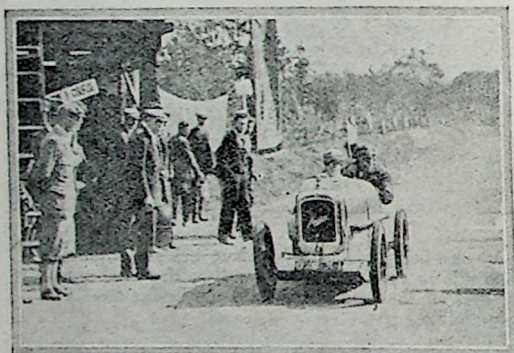
The six-cylinder chassis is, of course, the same as that used for the two-litre A.C., and a similar body is fitted. Great progress has been made with the Durobelle cellulose finish and as the proportion of A.C.s ordered with this finish has become so large it has now been decided to include cellulose without extra charge in the list of prices given.

No alteration will be made for 1928 to the Senechal programme either in prices or specifications. Three models are obtainable in this country. The



WEEKLY WISDOM.

Consider the hen. In the bazaar it costeth little, but on the highway the price it goeth up an thousandfold.



"popular" model has a 972 c.c. engine and a two-seater body, the price being £185. A 1,094 c.c. engine and the option of a two or three-seater body is obtainable in the "standard" model for £215, while a "de luxe" job, with a special chassis, four-speed gearbox, full differential and English three-seater body, costs £295.

Essex M.C. Brooklands Meeting.

The Essex Motor Club's Brooklands Meeting, which was postponed on August 20th owing to rain, will be held to-morrow, Saturday, starting at 2 p.m.

"Safety-first" Accessories.

We are indebted to Messrs. Brown Bros., Ltd., A. J. Dew and Co., A. W. Gamage, Ltd., and Dunhills, Ltd., for their co-operation, which enabled us to obtain a large number of the photographs of "Safety First" accessories which appear in this issue.

Our Front Cover.

The view in the background of our very striking front cover picture shows Trafalgar Square, London, looking towards the Admiralty Arch. The photograph clearly shows the chaotic traffic conditions which prevailed before "circular control" was brought into operation. This innovation, which is now in force in numerous busy traffic centres, proved to be a great aid towards safer driving as well as speeding up the flow of vehicles considerably.

Excellent Grand Prix Entry.

THE British Grand Prix on October 1st promises to be easily the best supported and most exciting of the international events by participation in which the "championship of the world" is decided.

The entries include the three all-conquering Delage cars which made their debut last year, three Bugattis, entered by Ettore Bugatti himself and calculated to be the best things in racing cars that a famous racing stable has produced, three further Bugattis for which Malcolm Campbell, G. E. T. Pyston and Prince Ghica, a Rumanian, are responsible; two Thomas Specials, to be driven by W. B. Scott and H. W. Parry; one Alvis, with C. M. Harvey at the wheel; one Duesenberg, in the hands of one of the most determined American aces, George Souders; and, last, but by no means least, the three mystery Fiats, a make the return of which we foreshadowed in this journal three weeks ago.

There was a possibility of two Miller Specials being entered, and it is, indeed, a pity that they have not materialized.

British competitors will have the advantage of knowing the Weybridge track in Grand Prix course form and otherwise inside out, but several of the foreign drivers, including Salamano (Fiat) and Benoist (Delage) are familiar with Brooklands.

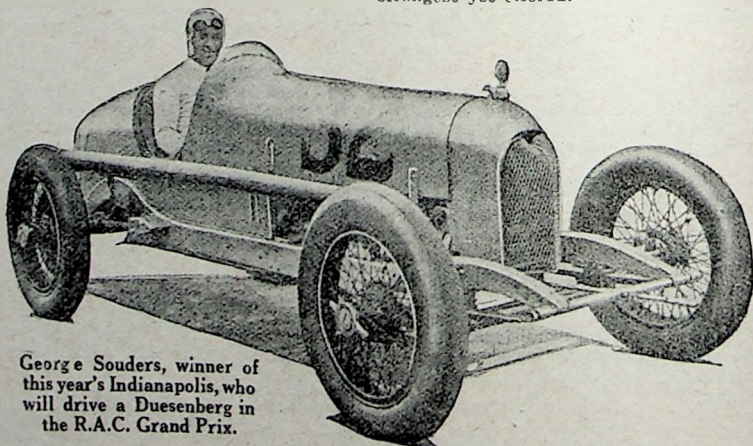
The Grand Prix of the R.A.C. is the last of the 1927 series of five races constituting the championship of the world. The first, the Indianapolis "500," was won by the Duesenberg which is entered for the British race, whilst the remaining three, the French Grand Prix, the Spanish Grand Prix, and the Grand Prix d'Europe held at Monza, Italy, on Sunday last, were all won by Delage. The winners of all previous championship races will therefore be seen at Brooklands on October 1st, but the challenge to Delage—a make which has so far swept everything before it in the Continental events—will be the strongest yet offered.

ON "OFFICIAL SERVICE."

This Brooklands model Austin Seven was used by officials of the Ulster Motorcycle Club to tour the course before the Ulster Grand Prix on September 3rd to announce the closing of the roads for the race.

Breakdowns on the Road.

The owners of 796 cars, which had broken down or had been involved in accidents, benefited during July under the R.A.C. "Get You Home" scheme.



George Souders, winner of this year's Indianapolis, who will drive a Duesenberg in the R.A.C. Grand Prix.

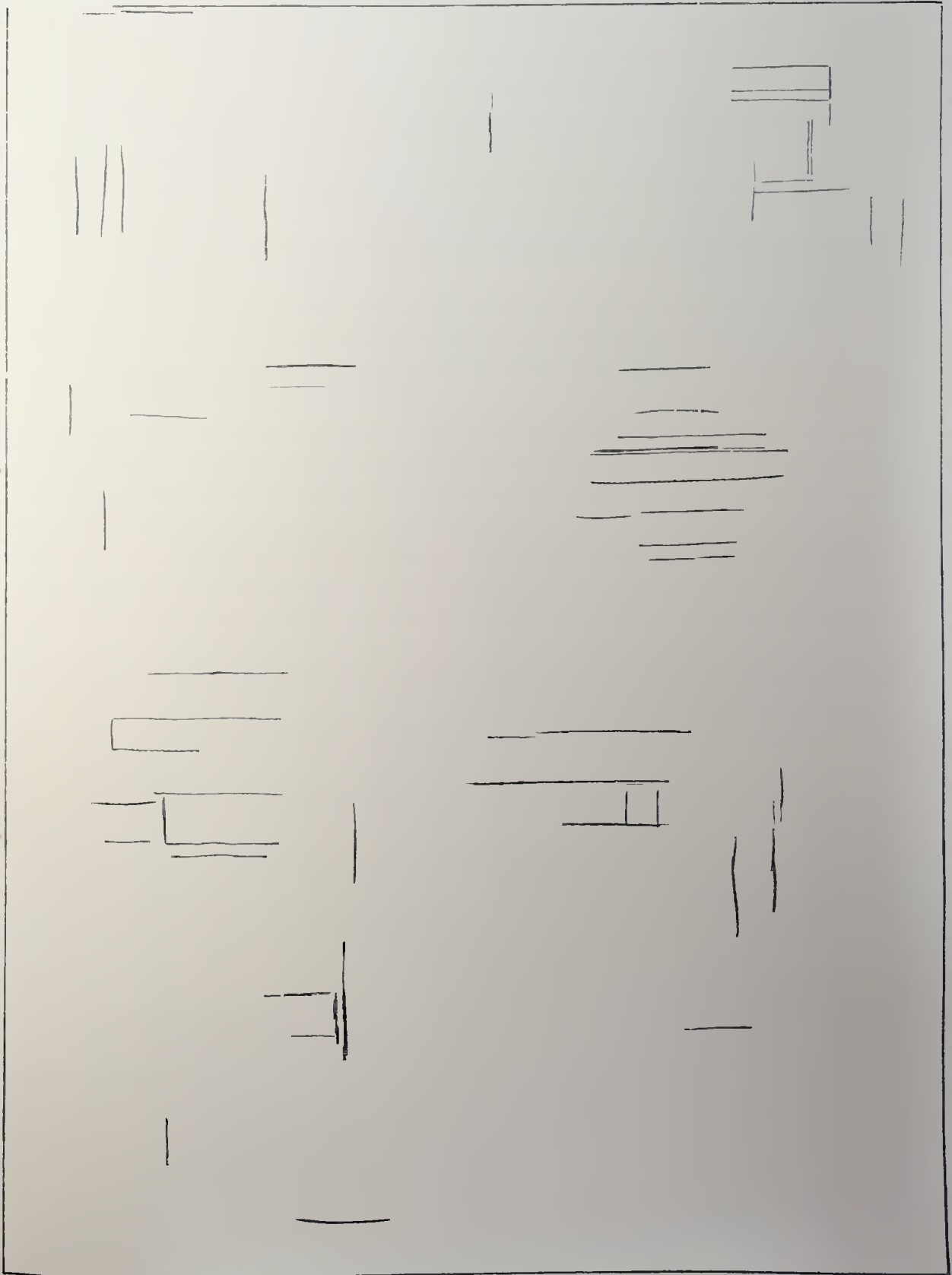
The I.O.W. Crossing.

Already the new ferry motor boat operating between Portsmouth and Fishbourne in the Isle of Wight is being well patronized by motorists. The crossing presents no difficulties in the way of manœuvring cars, special slipways having been constructed so that motorists may drive on and off the ferry boat with the greatest of ease.

Trade Delegation's Tour.

The British Trade Delegation, at present in the Australian Commonwealth, has decided to cancel a proposed visit to South Africa and a longer time will be spent in the Commonwealth. A visit to the Malay States will probably be paid on the return journey, and the Delegation is expected to be back in this country about the middle of this month.

SEPTEMBER 9, 1927.



SAFETY FIRST—but don't forget to keep a look-out at cross-roads.

The Situation Reviewed

SOUND ADVICE ON AVOIDING ACCIDENTS BY MEN WHO KNOW.

The Right Hon. Sir William Joynson-Hicks, Bart., D.L., M.P.,
Home Secretary and President of the National "Safety First"
Association.

THERE are many contributory causes in road accidents, but there is one sovereign remedy—a higher level of road sense on the part of all road users.

It will be many years before our roads can be brought up to the standard necessary for the modern volume of traffic which they have to bear. Meantime accident prevention must depend mainly upon the correction of human failures.

If all motor drivers would carry out the common-sense driving principles contained in the National "Safety First" Association's pamphlet which accompanies motor driving licences, there would be a very marked reduction in the number of accidents for which drivers are to blame.

The underlying cause of all such accidents is undue haste, i.e., excessive speed having regard to all the circumstances. This is exemplified in such practices as improper overtaking, selfish cutting-in and out of traffic, careless emergence from side turnings, failure properly to give, or to act on, the necessary hand signals, and similar irregularities.

The light car and the cyclecar are extraordinarily handy vehicles, but their drivers should remember that they usually have neither the reserve of power nor stability of the heavier types, and for this reason they should not misuse the "nippiness" of their machines.

All road users should combine to place safety (i.e., the public) first.

The Home Secretary, Sir William Joynson-Hicks.

Lieut.-Col. J. A. P. Pickard, D.S.O., General Secretary of the
National "Safety First" Association.

IN my opinion the two cardinal rules of road safety which should be observed by all classes

of road user are: (1) Extend to all other road users the same consideration which you would like to receive from them. (2) Be prepared for the folly of others.

An Official of the Traffic Department (New Scotland Yard) in a Memorandum.

IT is almost impossible to advise what to do when an accident is imminent. Action must depend on the skill of the driver and the prevailing circumstances. The great thing is to keep out of a position likely to lead to accident. The lever to use is road sense, a combination of common-sense and close observation. This with consideration for others—including animals—is the best insurance.

An accident may happen unavoidably, but the majority could have been avoided. Speed in itself may not be dangerous, but a skid at 40 m.p.h. is very different from a skid at 4 m.p.h.

Don't hold on to your rights; even if the other man is wrong, give way. An accident is just as unsatisfactory if you are in the right as if you are in the wrong.

Remember that the "main-ness" of a road, from a driver's point of view, depends on the traffic using it. At certain times, by-roads carry a much larger volume and, for the time being, are the more important.

Practise going slowly. Many drivers get worried and nervous if they have to go slowly for a considerable distance, and are always waiting for an opportunity to get out of the lines of traffic. Take it gently and little time will be lost in the end.

Remember that a pedestrian in front, whom you are overtaking, cannot see, but can only hear your signals. If you are going to turn into a side street across his path, vary your signal so that he shall differentiate it from the ordinary. Care-

ful drivers generally give a succession of low toots. In overtaking or meeting vehicles, remember that although your intended movements may be perfectly safe, the other drivers may not be so competent and may get flurried. When signaling do so clearly and in plenty of time. All the vehicles behind you may not have four-wheel brakes, and, in any event, sudden stops are dangerous.

In short, remember that, although you have a right to the use of the road, every other person lawfully using it has the same.



Mr. Stenson Cooke, Secretary of
the Automobile Association.

I AM frequently being asked to suggest ways and means of coping with the increase in road accidents, and particularly after the daily Press have called attention to the growing toll of the road. Safety first is, in effect, the only answer one can give, and I mean safety first, not only for the motorist but in its general application to all classes of road user.

At one time there appeared to be a danger of the safety-first movement developing on lines which would have implied that the negligent driving of motor vehicles was the main cause of the vast majority of accidents, but to-day I am sure the general public realize more and more that road safety depends upon every section of road user—motorist or pedestrian, tram driver or cyclist, omnibus or lorry driver—each bearing their fair share of responsibility for the avoidance of accidents.

Rigid adherence to the ordinary rules of the road, combined with giving or obeying the approved traffic signals, in my view constitutes the reasonable contribution of motorists to road safety, but there is an equal obligation upon the general public to recognize the fact that in recent years the development of motor transport has resulted in the speeding up of traffic and that modern conditions require a greater degree of care on the part of every road user whether he be on foot or on wheel.

Alderman P. V. Bowyer (Mayor of Southampton, where motorists receive a warm welcome at his hands).

THE cause of the majority of accidents to-day is not high speed as many folk seem to imagine. I have recently returned from France, where I made a pretty close study of motoring conditions. There, no speed limit is in force in the open country, cars are driven very fast and the percentage of accidents is fewer than in this country. That, I think, speaks for itself. I, personally, attach a

lot of the blame to novices who are seen in their thousands on very busy main roads before they have learned to control their cars properly on quieter by-ways. My advice—I speak as a driver with experience—is: Hug your own side of the road, never pull out to pass unless you are certain you can get through without undue hurrying; never in any circumstances pass on a bend and, finally, don't drive until you know in your heart that you have perfect control of your car under any conditions.

Finally, I would utter a word of warning regarding the extreme caution necessary when endeavouring to pass a trade van or char-à-bancs. Keep well behind so that if, after drawing out to obtain a clear view, the road ahead is found to be blocked, you can pull in again with room to spare. Too many drivers run close up to the back of, say, a large covered-in vehicle and, as they pull out, begin to accelerate with a view to passing. If there is something coming the other way they often experience difficulty in dropping back to their former position.

Commander F. P. Armstrong,
Secretary of the R.A.C.



YOU ask me for brief suggestions for the avoidance of accidents. Many of the accidents which occur are unavoidable by the motorist inasmuch as they arise from causes beyond his control, e.g., the careless pedestrian or "jay walker"—as he is pithily described in the States—who steps into the roadway without warning, but it must be admitted that there is a large number of accidents which could be avoided by the exercise of better judgment or more self-control on the part of the motorist involved.

My personal opinion is that the besetting vice of many drivers is being in too much of a hurry. There are motorists, and by no means a few of them, whose chief object on the road appears to be to overtake every car sighted ahead, and this insane practice is responsible for much of the cutting-in, overtaking at blind corners and general recklessness at cross-roads, which result in such a heavy toll of accidents and bring motoring into discredit.

If I might suggest a motto for the motorist, especially the inexperienced driver, it would be *festina lente*, or, as a famous old West countryman said to me many years ago, "Better be sure than sorry." The adoption of this advice would, I feel confident, mean very little difference in the average speed of a day's run but a very great reduction in the total number of road casualties.

**SAFETY
FIRST**

"The underlying cause of many accidents is undue haste."—The Home Secretary.
A motto for motorists: "Better be sure than sorry."—Commander F. P. Armstrong.
"Road safety depends upon every section of road user."—Mr. Stenson-Cooke.

**SAFETY
FIRST**



A selection of the more important signals showing the vehicles affected and the point duty. When no signal is given the

THE upraised arm of a policeman on point duty should be to a motorist what a semaphore in the danger position is to an engine driver: to overrun either may lead to disaster, and just as it devolves upon the man on the footplate to learn to recognize the particular signal applicable to him, so must the motorist make sure that he knows the significance of the various signals given by policemen.

Up to a few years ago point-duty men were allowed to use the signals which appeared to them best suited for any situation, but realizing that this was leading to confusion and that some recognized code was necessary in view of the rapidly increasing number of motorists, the London authorities decided to put into force a standard set of signals, and these were broadcast so that the public could learn to recognize them.

Not Easily Misunderstood.

A selection of the more important of these signals is shown graphically on these pages, whilst inset in each photograph is a plan view showing the position of a vehicle to which each particular signal refers. It will be agreed that there is nothing obscure or easily misunderstood in any of the various actions, and motorists who are not fully acquainted with them should study our illustrations so that they will know just what to do when approaching a cross-roads controlled by a man in blue.

It should be noted that in most parts of the country A.A. patrols and R.A.C. guides on point-duty adopt the standardized code of signals, and motorists—whether they be members of the associations or not—should in the absence of a policeman place themselves entirely under the control of these men.

In the country or at cross-roads in small villages

and towns one point-duty man is usually in charge, but in the Metropolis and other large centres it is not at all uncommon to find two or more policemen working in collaboration, in which case the golden rule to observe is—follow the directions of the con-

BEWARE OF CARELESS PEDESTRIAN LARGE NUMBER OF YOUR

The photographs show two types (right)

"JAY-WALKERS"—a name bestowed on careless pedestrians in the United States, and now generally understood by motorists in this country—are on the increase: beware of them.

They are found in town and country alike, and they are the cause of a large proportion of so-called "motoring accidents"—a description which leads quite naturally to the erroneous belief that a motorcar is to blame in every instance.

Drivers will be relieved to learn that "careless walking" is beginning to receive from the authorities the attention it deserves, but it will, we fear, be a long time before transgressors are brought to book with the celerity characteristic of the action taken against motorists for alleged offences.

In the meantime the dictates of "Safety First" demand that drivers should be on their guard against "jays" by realizing just what to expect, and they should not forget that, in the event of a mishap, unless they can prove they were in the right, they are all too often judged as though they were in the wrong.

Jay-walkers belong to two classes: the wilful and the careless. Typical of the former is the person who deliberately steps off a kerb with the in-

or stands at right angles to your line of travel, holding up the traffic prepared to issue from the side road on your left.

One of the greatest offences of which a motorist

THE "JAYS."

ARE RESPONSIBLE FOR
ACCIDENTS—BE ON
GUARD.



"Jay-walker." (Left) The careless and
"deliberate Jay."

tention of crossing a road, in the full knowledge that the driver of an oncoming car will have to steer round him or, in the event of other traffic being in evidence, reduce his speed considerably. Frequently the jay-walker places his entire confidence in his own cheek—and the assumed effectiveness of the brakes of the car—coupled with the instinct of the driver to do the right thing.

If his conclusions are not correct he seldom suffers but is the first to be on the scene of a mishap to give evidence against the car driver.

Careless jay-walkers are equally dangerous. They set out to cross a busy thoroughfare without looking one way or the other, often making a lightning dart into the roadway; whilst they seldom appreciate the danger of crossing a road at an angle—stepping off the kerb in the first instance with their backs to the oncoming traffic.

So be wary of the "jay." He exists in his millions and no amount of attempted education by kindness will make him any better; it will require a little gentle persuasion from official quarters in the shape of charges of "walking to the common danger" to wake him up to a sense of his responsibilities to the community at large.

can be guilty is to ignore, wilfully or otherwise, a stop signal given by a policeman on point duty. Offenders in 99 cases out of 100 are, those who, owing to careless observation, have mistaken the signal given, and we would impress upon drivers—novices in particular—the fact that ignorance is no excuse. If they transgress they will at the best escape with a pretty sound "talking to," whilst if they decide to argue the point the policeman may carry the matter farther.

A word of warning may with advantage be mentioned here with regard to unofficial traffic directors, such as loungers at street corners, who frequently, without having satisfied themselves as to the traffic conditions at the moment, wave one on at cross-roads. Motorists are strongly advised in these circumstances to make sure for themselves that the road is all clear.

The "Mechanical Policeman."

In last week's issue we dealt with quite a new development in traffic control, namely, the "mechanical policeman"—an electrically operated signalling device placed at the beginning and end of road-up sections. It is more than probable that these will be adopted by the police and that the authorities will obtain powers to deal summarily with those who ignore the signals given.

Finally, it should be borne in mind that standardization of police uniforms is apparently very far off, and that the uniforms worn by policemen at cross-roads in different parts of the country vary not only in summer and winter but in the actual means adopted for making a policeman more conspicuous. In some districts no addition is made to the plain blue uniform, in others white armlets are worn, whilst some authorities go to the very wise extreme of dressing point-duty men in white dust coats or macintoshes.



MAINTAINING BRAKE EFFICIENCY.

ONLY VERY ORDINARY ATTENTION IS NEEDED TO KEEP THE BRAKES IN GOOD WORKING ORDER. THIS ARTICLE EXPLAINS HOW TO GIVE IT.



THE vital importance of efficient braking will be appreciated by all who drive with "safety first" in mind. It will be instructive, therefore, to consider how the brakes of a car can be maintained in proper working order.

The friction material of nearly all modern car brakes consists of woven asbestos fabric, which is practically unaffected by heat and which possesses extremely good wearing properties. The material is riveted to the brake shoes which, in many cases, are made of aluminium to ensure rapid dissipation of the heat generated in braking, and, as a rule, the shoes are expanded inside the drums by levers connected to the hand or foot controls.

To obtain a smooth braking action it is necessary that the surface of the drums on which the friction material acts shall be perfectly smooth and concentric. Roughness in the drums gives rise to judder, whilst, if the drums become distorted from a truly circular shape, the braking action will be irregular—in fact there will be a tendency for the wheels to lock during part of their revolution.

There is a number of important considerations with regard to the correct fitting of the fabric on the shoes. As a rule it is secured with aluminium rivets having countersunk heads, and it is desirable that the heads should be below the surface of the fabric, although if they are flush with the surface it will not matter very greatly, because aluminium is much softer than the steel of the brake drums and therefore will not score grooves in them, but "proud" rivets may give rise to brake squeak.

Friction fabric is not very easy material to work unless proper methods are adopted. A fine-toothed hacksaw should be used to cut the material and the rivet holes can be drilled with an ordinary twist drill. Countersinking can be done with a rose bit held in a carpenter's brace, but special aluminium rivets are now available which do not require a countersunk hole; they are driven directly through the plain hole by means of a steel drift or punch.

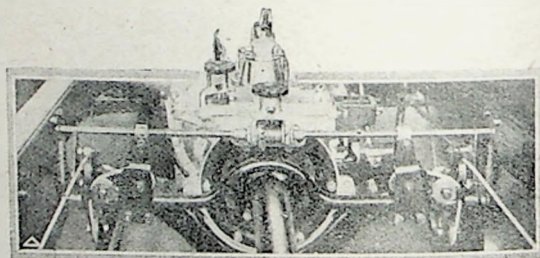
If, however, the hole is near the edge of the fabric

countersinking is advisable as, otherwise, the material may be swelled or even split. It is a good plan to warm the fabric before riveting, as it then becomes much more pliable and conforms readily to the curvature of the shoe.

The rivets must be clinched securely, and it is advisable to bevel the leading and trailing ends of the fabric in the manner shown in one of the accompanying illustrations. If the ends are left square they have a tendency sometimes to cause brake judder. There is a possibility also that they will bear against the drums when the brakes are in the "off" position.

Correctly fitted brake shoes should, when in good condition, bear over their entire surface and present a quite smooth appearance. After continual use, however, or if oil has been allowed to get on the fabric surfaces, they will become glazed with a hard deposit having a very low coefficient of friction, so that the braking effort becomes small. In these circumstances it is necessary to remove the shoes and scrape off the deposit by means of a coarse file or an old hacksaw blade.

If the fabric becomes impregnated with oil, scraping the surface will have very little effect upon restoring its efficiency. The proper cure is to burn out the oil by heating the shoes on a gas-ring. The heat will bring the oil to the surface where it may be wiped off or allowed to burn off. Care must be taken, however, not to allow the temperature to become unduly high,



WORN BRAKE LININGS ARE DANGEROUS.



(Above) An ingenious brake control layout which enables the brakes to be adjusted from the driving seat. (Left) A coil of friction material and two brake shoes in need of relining owing to frayed edges and broken away ends.

as this will be harmful both to the fabric and to the shoes.

Some friction fabrics when new exude a gummy substance which has an unpleasant effect upon braking, as it makes the brakes extremely erratic, and owing to its stickiness is liable to lock the wheels at low speeds, however gently the brakes may be applied. The cure for this is, of course, to clean the friction surfaces and to wipe out the drums with a rag soaked in paraffin or petrol.

In the course of time the friction material will wear and it will be necessary to adjust the brakes. Unless there is a compensated master adjuster, both axles—in the case of four-wheel brakes—should be jacked clear of the ground and each set of brakes adjusted

separately. Commencing first with the hand brake, which probably will act on the back wheels only, the adjusters should be screwed up until the brake shoes begin to take effect when the lever is about one-third of the way across the quadrant.

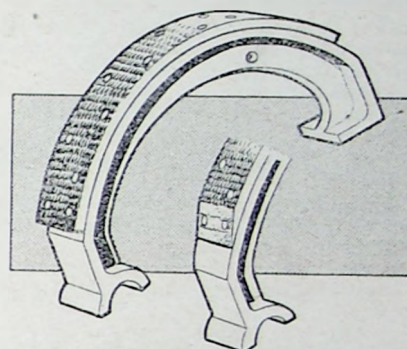
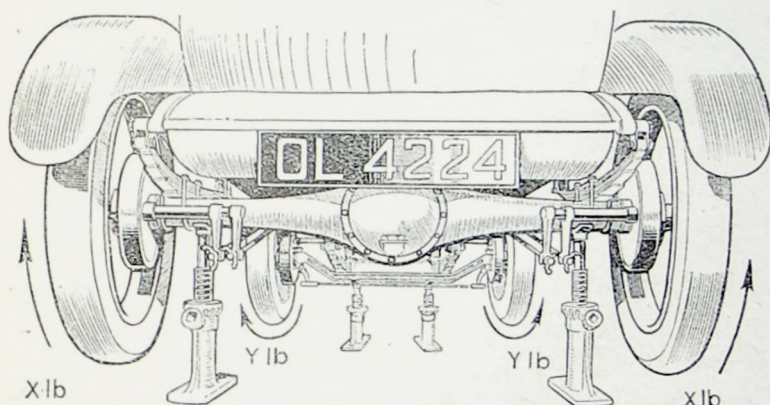
In this position each wheel in turn should be rotated by hand and there should be an equal amount of resistance in both. If not, the adjuster of the wheel which is easiest to rotate should be given another turn and a fresh trial made. If the brakes are fitted with compensated control the resistance of each should be equal, but care must be taken to see that the compensator bar is at right angles to the two links.

Having checked the hand brake, the foot brake adjustment can then be undertaken. To do this the front wheels should be pointing straight ahead and the brake pedal should be wedged down until the brakes just begin to take effect. Wedging the pedal is much more effective than asking an assistant to apply the brake, because by eliminating the human

Accurate adjustment of the brakes is necessary, not only for pulling up the car quickly, but also for the avoidance of skidding. One wheel locked whilst the others are free to revolve may possibly cause a skid on a greasy road, but if all four brakes have an equal retarding effect the risks of skidding are reduced to a minimum.

In the ordinary way brake-operating mechanism calls for very little attention. It is important, however, to see that all yoke ends, pins and other moving parts subject to wear are plentifully lubricated, because stiffness in working adds to the effort required to apply the brakes and—what is quite as bad—it may prevent the shoes returning to the "off" position when the pedal or lever is released. This will give

HINTS WORTH KNOWING.



(Above) As a rule the ends of the friction material should be bevelled as shown in the small sketch. If left square they tend to cause judder. (Left) When adjusting the brakes the wheels should be jacked up so that their resistance to turning can be tested by hand.

element there is no risk of variation in the pedal pressure, whilst the adjustment is being made.

Each brake should be tested in turn by rotating the wheel and each must be adjusted until there is an equal amount of resistance on all four, but it must be borne in mind that, as a rule, four-wheel brakes are designed in such a manner that the front pair are less powerful than the rear. When all the adjustments have been completed the brakes should be freed and the wheels tested again in order to make sure that none of the brakes has been over-adjusted so as to cause binding in the drums.

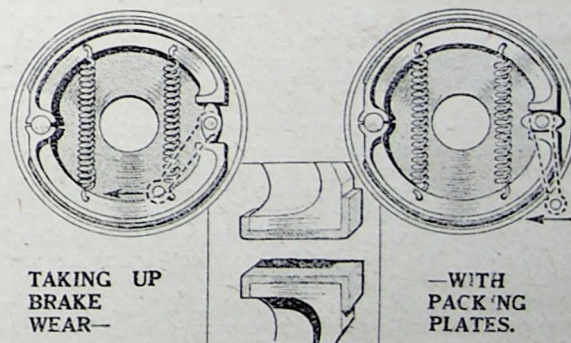
It is a good plan in this connection to tap each drum gently with a hammer and listen to the ring. If this is quite bell-like it may be taken that the shoes are clear of the drums, but if only a dead sound results, it is an almost certain indication that the shoes are touching the drum.

If, when the adjustment has been completed, it is found that the operating levers on the brake-cam spindles are well forward of a vertical position there is a chance that the friction fabric has worn thin, so that the cam has to open the two shoes very wide before they take effect. In this case, if it is inconvenient to fit new friction material, it is possible as a rule to fit plates to the cam faces of the shoes.

This will allow the cam to occupy a normal position and will bring the lever back to its most effective operating position. A glance at one of the accompanying illustrations will make this point clear, but it will be understood that in the case of front-wheel brakes the lever in its proper operating position should be forward of vertical.

rise to undue wear of the linings and often is the cause of a mysterious loss of power for which the engine is usually blamed.

The stranded wire cables used to operate the brakes on some cars require rather special attention, because it is very desirable to prevent the formation of rust on the wires. Painting them with boiled oil from time



When excessive wear takes place the brake cam and lever will assume a position as shown above (left). The correct position (right) can be regained by fitting packing plates to the shoe faces (inset).

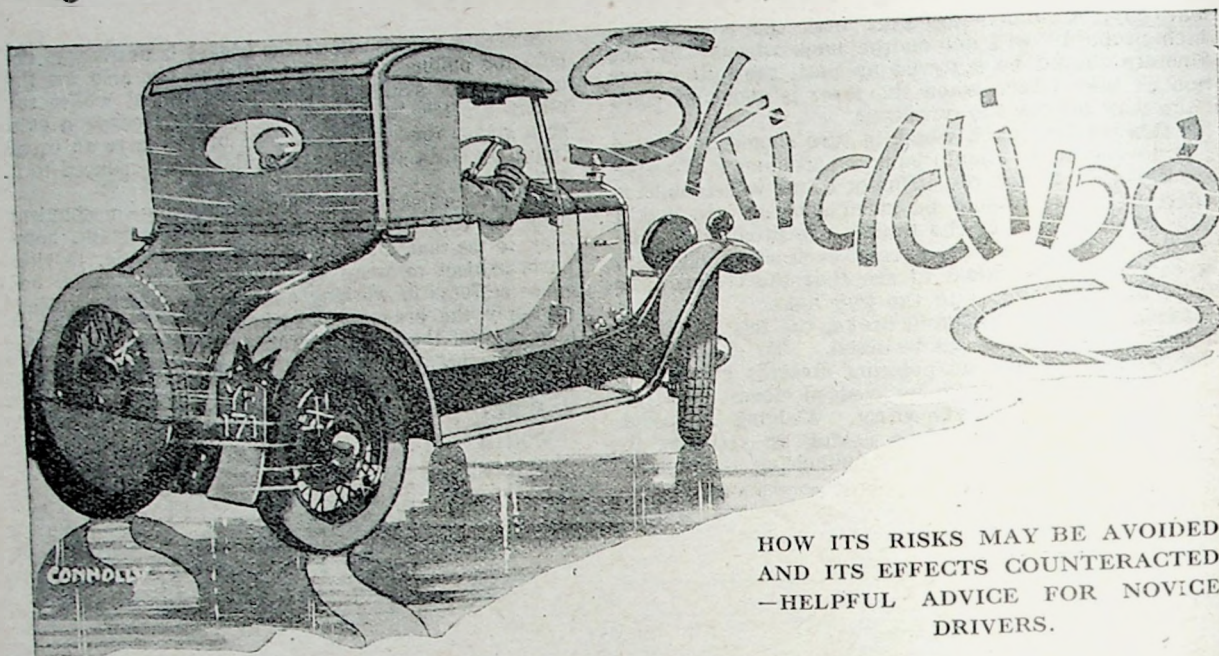
to time will be found very effective in this connection.

It is a proved fact, however, that wire brake cables are extremely reliable, thanks not only to the quality of the steel of which they are made but also to the care exercised in their production.



You can save any amount of "shocks" by fitting bumpers.
To avoid the "jays" you must use your "eyes."
Don't assume the road is clear; to see is to believe.





HOW ITS RISKS MAY BE AVOIDED
AND ITS EFFECTS COUNTERACTED
—HELPFUL ADVICE FOR NOVICE
DRIVERS.

WHY does a car skid? For two reasons principally, first because on a bend the car naturally resists the driver's efforts to change its course, and secondly because whilst on the straight no particular force is at work endeavouring to keep it going in a straight line—at least, any force tending to make it swerve has little to oppose it when the roads are wet.

The case may be taken of a car going along a straight road with a smooth level surface. Assuming that the brakes are then applied to the back wheels it will be clear that unless they act with equal force, one back wheel will try to get in advance of the other.

The condition set up is similar to that when an axle with two wheels is set rolling free down a sloping board and one wheel is checked either with a brake or by coming into contact with an obstacle. When this occurs the "free" wheel will try to describe a circle about the braked wheel, and this applies, of course, in exactly the same manner when both wheels are braked, but one more than the other, or when both wheels strike an obstacle, but one more formidable than the other.

In the case of a car with four-wheel brakes, it may be assumed that to provide a given braking effect, each wheel needs to be braked only to half the extent that would be needed in the case of a car which had no brakes on the front wheels. In consequence the "obstacle" already referred to is only half the size and consequently has only half the effect upon the car so far as skidding is concerned.

Another point in connection with braking on all four wheels which vitally affects skidding, is that if a car is driven along a level road and the back wheels are violently braked, the rear of the car will swing to one side or the other. If, however, in similar circumstances only the front wheels are violently braked, the car will keep in a straight line unless one front brake acts very much more powerfully than the other.

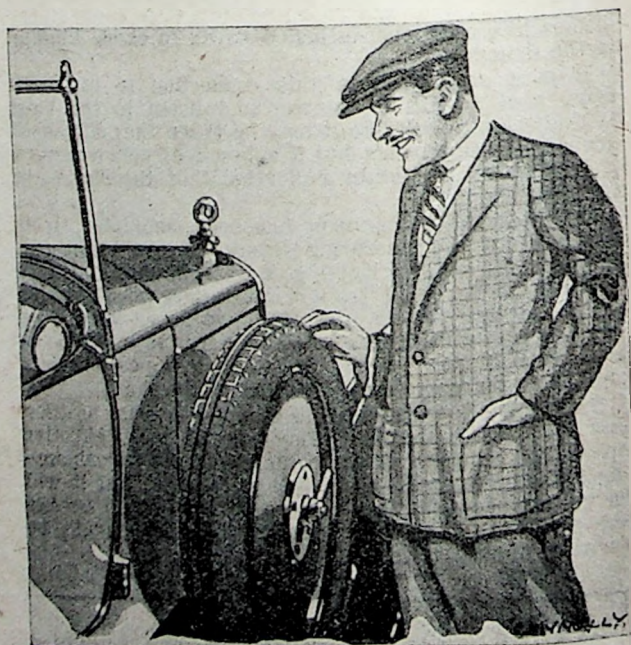
Having commented in a none-too-technically-accurate manner upon the factors which give rise to skids, we can turn to means for thwarting them.

First and foremost, of course, come commonsense driving methods. It is possible to drive along extremely greasy roads without a suggestion of a skid, provided that the driver uses methods which eliminate the need for violent braking or swerving. A really experienced careful driver, no matter what car he uses or how slippery the roads, will never suffer from skids. We cannot all, of course, have the necessary experi-

ence nor the knack of discriminating between roads which are safe and roads which are dangerous, but we can drive slowly when the roads are wet and we can take very special care to avoid the likelihood of emergencies arising and, by doing so, we can largely eliminate skidding risks.

There are occasions, however, when one is driving on a road which appears to offer a good grip but which, in point of fact, does exactly the reverse, whilst there are also occasions when one appears to be exercising every possible care and yet when an emergency calling for violent braking or a vigorous swerve may suddenly arise.

It is on occasions such as these when a knowledge of skidding and the correction of skids is absolutely invaluable, and this can be acquired only by experience. It is therefore a wise driver who, when the stage is suitably set, avails himself of the opportunity to practise the correction of skids. Some of our broad new arterial roads are admirable for the purpose and those



A good bold tread pattern on the tyres provides the very best precaution to take against skids.

who choose a suitably-deserted stretch when it is in a thoroughly slippery condition will find that half an hour spent deliberately putting the car into various kinds of skids and practising means for counteracting them, will be most informative.

This is not the counsel of a crank, but follows the doctrine of the London General Omnibus Co., whose drivers are generally considered to be the most skilful in the world. The company at its training establishment has a special yard, surfaced in a manner which provokes the most hair-raising skids and on which drivers in training have to put in a given period of practice. The skill which they thus acquire in preventing their vehicles from skidding and in checking the effects of a skid once it has started is the admiration and envy of every motorist who rides in a General omnibus.

Turning now to means which may be adopted for eliminating the likelihood of a skid, we come first and foremost to non-skid chains. These, for some reason which cannot be explained, have never "taken on" in this country, but in America their use is widespread, so much so, in fact, that one important United States taxicab enterprise has a notice in its vehicles stating



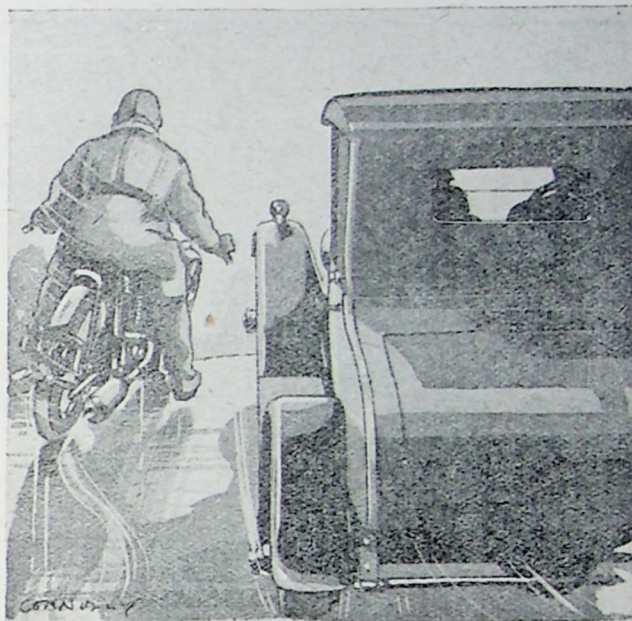
Practising the correction of skids on deserted roads is an invaluable part of a driver's training.

that the driver has instructions to fit non-skid chains to the rear wheels whenever the roads are wet. The two non-skid chains with which readers of *The Light Car and Cyclecar* are doubtless most familiar are the Parsons, which are marketed by Parsons Non-Skid Co., Ltd., 35, Macaulay Road, Clapham, London, S.W., and the Off'n-On variety marketed by the Pyrene Co., Ltd., 9, Grosvenor Gardens, London, S.W.1.

Next to non-skid chains in order of importance come tyres with a really bold tread pattern. It is wisdom to fit new tyres in the winter rather than the reverse practice which is followed by many motorists who wish for a minimum of interference with their pleasure runs during the summer months.

An alternative plan to removing part-worn covers and storing them during the winter months is to have them retreaded at the fall of the season. Most concerns which do this work can offer a bold tread pattern with excellent non-skid properties, and it should be remembered that a new tread on a part-worn cover will often yield as good or even a better mileage than a brand new tyre.

It has been established in practice, if not in theory, that supple road springs, suitably damped, cause less



Give cyclists and motorcyclists plenty of room on greasy roads, for a skid may have serious consequences.

skidding than stiff springs, and it is therefore wise, if skids are to be avoided, to keep the springs well oiled and free from rust.

We will conclude with some don'ts.

Don't swerve up the camber of the road.

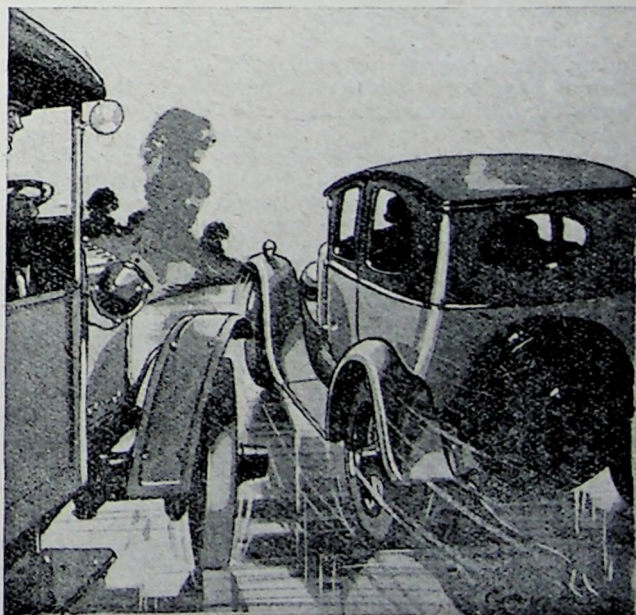
Don't brake on right-hand bends.

Don't declutch when braking until the speed has fallen to 6 m.p.h. or so.

Don't take blind corners at a speed which will not allow a comfortable pull-up if the road round the corner is barred.

Don't forget that violent braking on the rear wheels alone usually provides the only means for checking front-wheel skids.

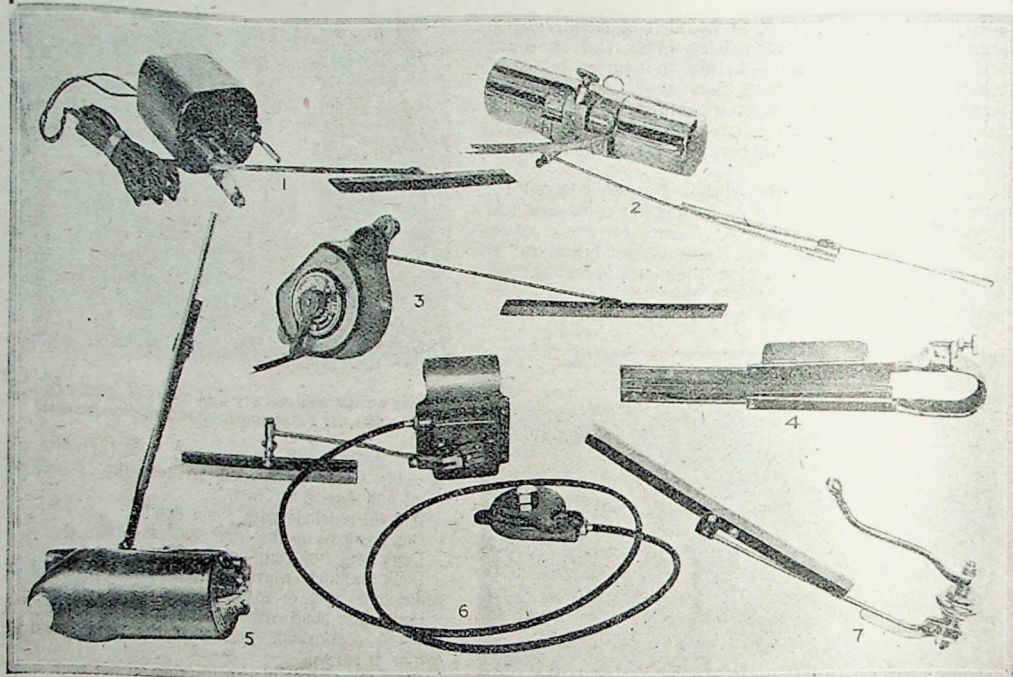
Don't lose your head when the car begins to skid. A driver with presence of mind can escape from the most hair-raising skids by keeping cool and making what use he can of the controls.



Avoid cutting in and pulling up the camber at a sharp angle. Nothing is better calculated to provoke a dangerous skid.

WHEN VISIBILITY IS BAD.

THE NEED FOR BEING ABLE TO SEE CLEARLY WHEN DRIVING A CAR IS ALL-IMPORTANT. THE ACCESSORIES MENTIONED IN THIS ARTICLE ARE DESIGNED TO MEET THAT NEED AND WILL BE FOUND WELL WORTH FITTING.



TYPES OF WINDSCREEN WIPER.

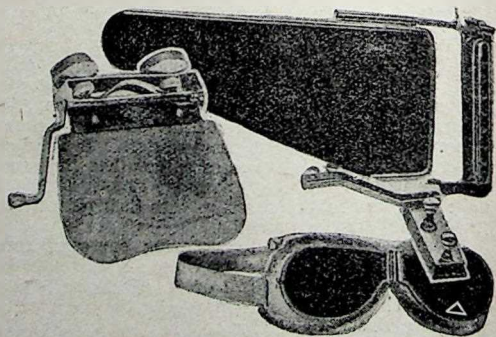
These photographs show (1) the Stuart electric wiper, price £2 2s.; (2) Lucas suction type, price £1 1s.; (3) Berkshire "Dyneto" electric, price £2 2s.; (4) a double-sided hand wiper, the Nesthill, price 5s.; (5) Bosch electric model, price £2 12s. 6d.; (6) a Stadium Bowden operated type, price 12s. 6d., and (7) a hand-type, also Stadium, price 4s.

THERE is a number of conditions, both in day-light and night driving, which, from a visibility point of view, can be very trying to the driver of a car. In the daytime, when driving in a westerly direction at sunset, the dazzle caused by the sun is not only annoying, but sometimes distinctly dangerous. A little later in the evening, when twilight sets in, there is a period sometimes called "between the lights," when it is extremely difficult to distinguish objects on the road ahead and when switching on the head lamps is of little assistance. The annoyance which can be caused by dazzling headlamps in full darkness is too well known to require comment.

Before very long now it will be necessary for careful motorists to make preparation against that bugbear of driving—fog; but even at this time of the year it is by no means uncommon to encounter heavy ground mists, which can be very disconcerting if they are encountered suddenly, say, after rounding a bend on a strange road. Rain, of course, can be expected at any time during the year, and by blurring the windscreen can make driving very unpleasant. The need, therefore, for overcoming any difficulties like these which may arise is obvious.

Taking rain as the most usual cause of bad visibility, we can overcome the trouble to a large extent by fitting a windscreen wiper, preferably of the automatic type. There is a very large choice of these instruments available on the market; some of them work by engine suction, some by electricity and others are positively driven by means of a flexible shaft coupled to a suitable drive from the engine.

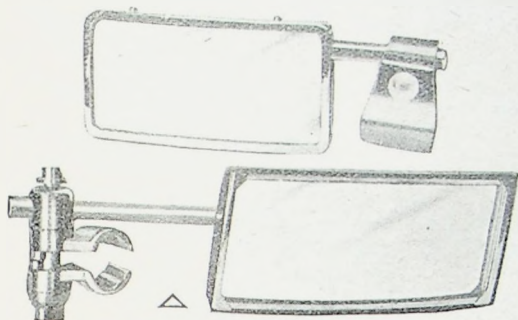
In practically all cases the squeegee describes an arc over the windscreen, which ensures a clear view ahead for the driver, but it is desirable sometimes to be able to see clearly through the nearside of the windscreen from the driving seat. Thus, it is very convenient to fit an additional squeegee working on that part of the glass and coupled by a light connecting-rod to the main arm. This supplementary squeegee can be fitted to the majority of present-day screen wipers,



To mitigate dazzle; the Perspectus glare shield (top, right), which sells for 11s., and (left) the Stadium anti dazzle shield, priced at 5s. The goggles shown are fitted with amber-coloured Triplex glass and cost 26s.

but in some cases the makers advise the use of separate instruments.

A spotlight is a very useful accessory on a car, because not only does it enable signposts to be read easily in the dark, but, in addition, if a bracket is



Two serviceable mirrors—the Autoscope (top), which costs 9s., and (below) the Stadioscope, which is priced at 10s. 6d.

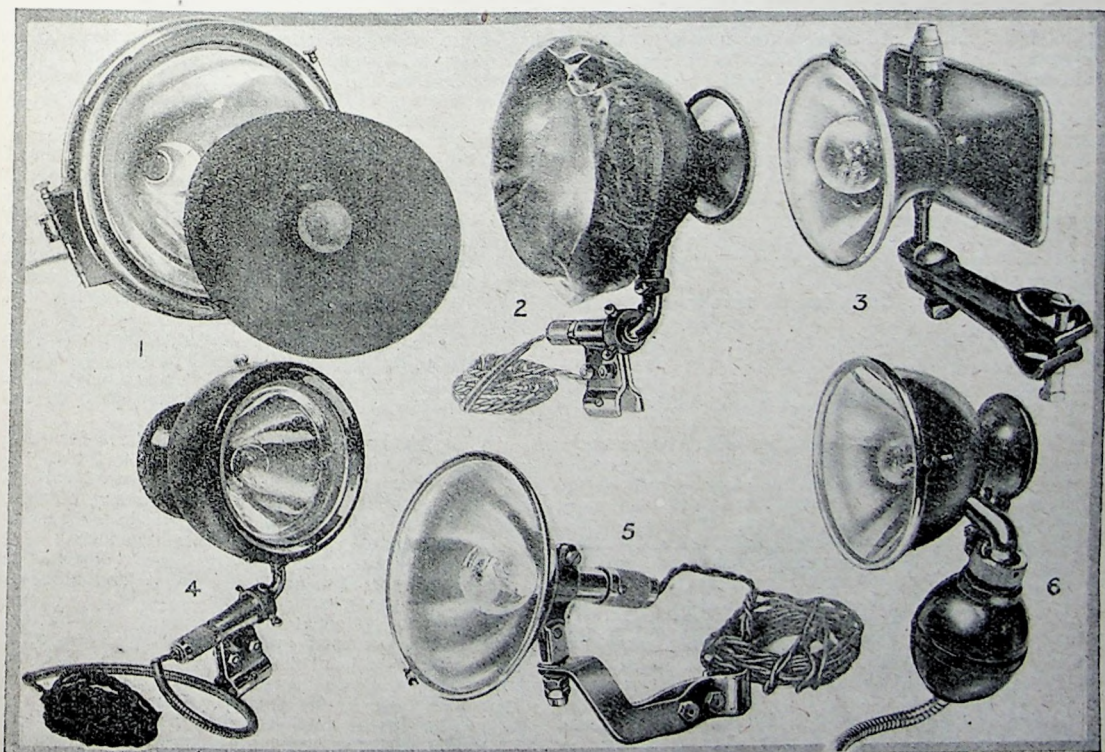
provided for it on the near-side running board or near-side dumbiron it will prove invaluable as a fog light, especially if the normal white rays are cut off by the use of a transparent orange-coloured disc fitted over the glass. With a spotlight mounted normally on the off-side windscreen pillar it will be found that, by swinging the lamp round so that the beam shines astern, reversing at night will be very much simplified and the risk of a crumpled mudguard or dented body panel will be eliminated.

There are various methods of combating the dazzle set up by sunlight or by the headlights of oncoming cars, but, strange as it may seem, few drivers take the trouble to adopt any of them. It is possible to obtain fittings made of coloured glass or celluloid, which can be attached to the windscreen and swung round when required to shield the driver's eyes from the direct rays of the lights or the sun. Similarly, spectacles and goggles of coloured glass can be obtained, but the objection to these for night driving is that they cannot be brought quickly into action and it is not convenient to wear them continuously.

There is one type of spectacle, however, to which the foregoing objection does not apply. The lower half of the spectacle frame is quite plain, but each upper half is fitted with a green, visor-like projection. When using these protectors the driver looks normally through the lower, unobscured portion, but when dazzling lights appear a slight downward tilt of the head will bring the visor before his eyes.

The use of driving mirrors is becoming very much more popular, and a correctly placed mirror with a good optical definition is an extremely useful accessory, but glasses which distort or which do not indicate the true position of an overtaking vehicle are apt to be extremely misleading.

Reverting for a moment to the question of dazzle from oncoming headlamps, we would stress the desirability of refraining from "blacking-out." This question aroused a large amount of controversy not long ago, and it was decided by the responsible motoring organizations and endorsed by all experienced drivers that the practice was wrong. A driver can help others by fitting dipping headlamps, but he gains no personal benefit from these devices unless an oncoming car is similarly equipped.

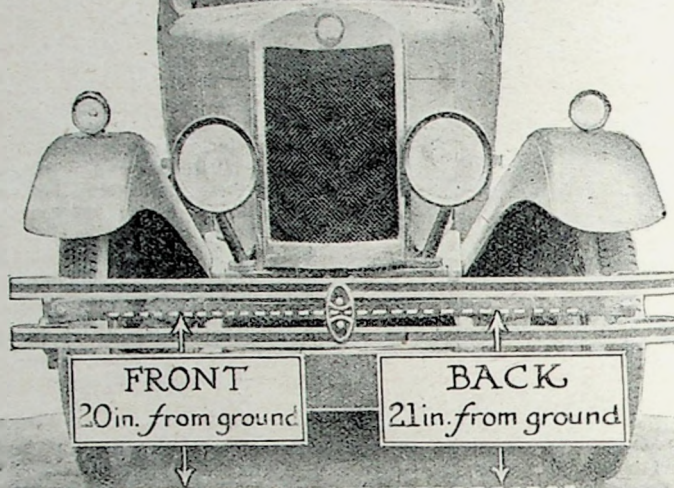


FOG SCREENS AND
SPOTLIGHTS.

(1) A Stadium fog disc, the price per pair is 5s. 6d. (2) An oilskin fog screen, marketed by Brown Bros., Ltd., a pair costs 2s. (3) A spotlight marketed by Dunhills, Ltd., at 35s. (4) The Duco combined spotlight, inspection lamp and mirror; prices range from 47s. 6d. (5) A cheaper Duco spotlight, priced at 17s. 6d., and (6) the Autoreelite, which is sold at 55s.

BUMPERS

The photograph shows the heights from the ground for front and rear bumpers, which have been standardized by the Society of Motor Manufacturers and Traders. Heights are measured from the ground to the centre line of the bumper, as shown.



The utility of bumpers will undoubtedly be increased if standard heights are adopted for both front and rear bars. Motorists should make sure that the dimensions shown are adhered to when bumpers are fitted. The fitting shown is a Pyrene (£3 10s.).

A REVIEW OF SOME LEADING TYPES OF BUMPER SUITABLE FOR LIGHT CARS—
THE IMPORTANCE OF THE UNIVERSAL ADOPTION OF THE STANDARDIZED
HEIGHTS RECOMMENDED BY THE S.M.M. AND T.

THE time has yet to come, unfortunately, when bumpers will be as much a feature of a well-equipped car as speedometers and electric lighting sets are to-day. They are, as yet, still on the list of most desirable accessories which wise motorists fit but which are not supplied as standard by the majority of manufacturers.

Nevertheless, the increasing number of cars seen on the road protected with front or rear bumpers, or both, bears witness that these safety devices are now no longer regarded as fittings used by inexperienced or nervous drivers alone but, rather, that those who use them do so to protect themselves against the experience of others.

This is a strong argument for the universal adoption of bumpers, for if a car has to be laid up, even for a very little while, on account of repairs made necessary by minor mishaps, the inconvenience is often considerable.

Here is a concrete instance of the value of bumpers: it is worth careful study.

A small two-seater is bumped from behind by another car. Result—a battered rear mudguard, smashed tail-lamp, bent number plate and scratched paintwork. The cost of repairs for the various items would approximate 16s. for hammering out and touching-up the mudguard, 7s. 6d. for a new tail-lamp, and 1s. for the bulb, 2s. 6d. for repainting the number-plate and possibly as much as 10s. for attempting to restore to the bodywork something like its pristine brilliance. The sum total is over 30s., a figure which at first sight may appear to compare not unfavourably with, say, the £2 10s. to £6 required to purchase bumpers. Remember, though, that the repairs effected for £2 would not make a car *absolutely* like new.

The figure might conceivably rise to twice that mentioned if the whole of the dicky were repainted, as would really be necessary to make a satisfactory job. Moreover, only one mishap has been considered. As an added argument it may be put forward that bumpers add to the appearance of a car, in addition to increasing safety, and the cash value of good appearance is not to be disregarded.

B16

Matters are not vastly improved when a motorist who is involved in a minor accident, and whose car is fitted with bumpers, is insured. His no-claim bonus is sacrificed on the one hand, whilst if on the other hand he has undertaken to bear the cost of repair up to, say, the first £5 he is also out of pocket.

It has been suggested that the utility of bumpers would be greatly increased if standard heights for the bars were universally adopted. One obvious advantage would be that if all cars were fitted with bumpers the same height from the ground no damage could possibly be caused by minor collisions. Alive to this advantage the Society of Motor Manufacturers and Traders, Ltd., has issued provisional data relating to bumper dimensions for private cars and commercial vehicles. The official wording is as follows:—

"The horizontal centre line of the bumper face, exclusive of fittings, shall be 20 ins. above the ground for front bumpers and 21 ins. for rear bumpers, plus or minus $\frac{1}{4}$ in. per inch of effective face in each instance.

"The minimum vertical depth of bars for single-bar type front and rear bumpers shall be 2 ins.

"The bumper height shall be measured with the vehicle supplied with the normal amount of water, oil and fuel, but without passengers or other load.

"The vertical spread of a contact face shall be the distance between the upper and lower edges of the outer bumper elements, exclusive of any additional projecting parts."

This is a genuine attempt to standardize the more important dimensions and, what is most important, various practical considerations, such as the loading of the car on which the measurements are made, have not been overlooked by the Society. Many of the bumpers at present on the market are supplied with universal fixings so that a motorist may have the bars fitted at any desired height from the ground. One other important point is that many makes of bumper can be altered in width to suit various tracks. This feature should be noted if, say, for the sake of neatness of appearance, it is desired to fit heavy bars to a light car.

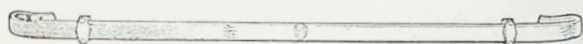
Explicit instructions with regard to fixing are given by all manufacturers, and only in few instances will it be found that drilling of the frame is necessary. The large majority of bumpers are provided with simple clamping devices incorporating universal joints which make the task of fitting and adjusting to the correct height one of half an hour or so.

A large number of bumpers suitable for small cars are illustrated, and it will be obvious that each type has certain features to recommend it. Bumpers may roughly be divided into three classes; those in which a rigid bar, or bars, is supported on flexible supports; those with bars having a certain amount of resilience, mounted on fixed, unsprung supports, and combinations of these two types.

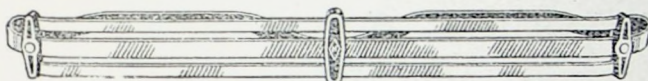
Most cars allow of full-length front and rear bars being fitted, but in cases where the rear luggage carriers or spare wheels intervene bumper "wings," which will give a reasonable degree of protection, may be fitted. It is desirable to select bumper wings having rounded ends, the possibility of catching the bars on doors and so forth when reversing in garages being otherwise by no means remote.

In all cases the fact should be emphasized that the adoption of the standardized dimensions for bumpers is a factor much to be desired, and motorists will be acting for their own good and for the good of the whole motoring community by ensuring that their bumper bars are accurately fitted at the heights recommended by the S.M.M. and T.

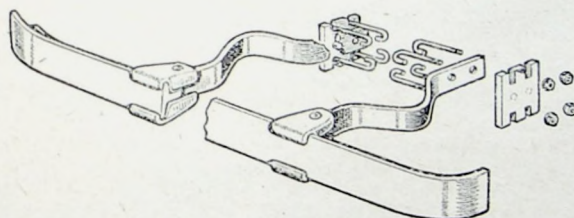
A FEW POPULAR TYPES.



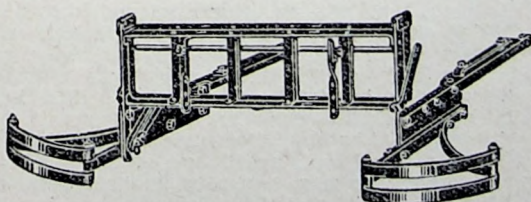
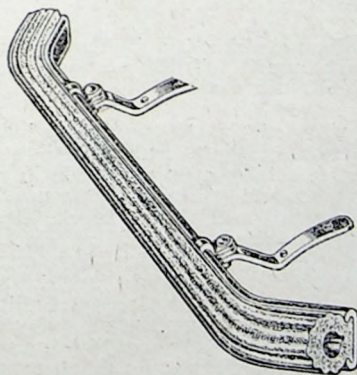
Stewart spring-steel bumper, price £3 10s. 6d.



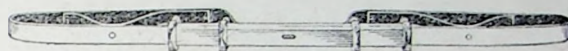
(Above) The Harker Majestic bumper, price £5 5s., and (right) the Fendex laminated model, £4 4s.



(Above) The Beclawat bumper embodies easy fixing devices and sells at £2 10s. (Right) The Connolly rubber bumper, price £3 15s.



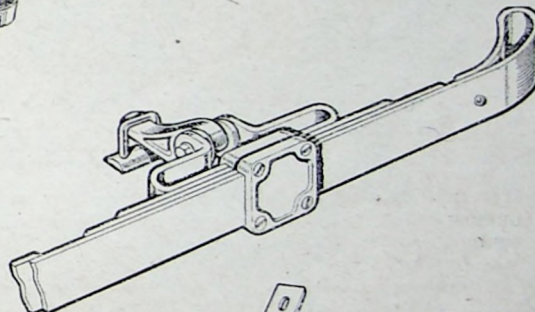
(Above) The Easyfit combined bumper and luggage carrier, price £2 15s. (Right) J.M. rigid fender, price £3 15s.



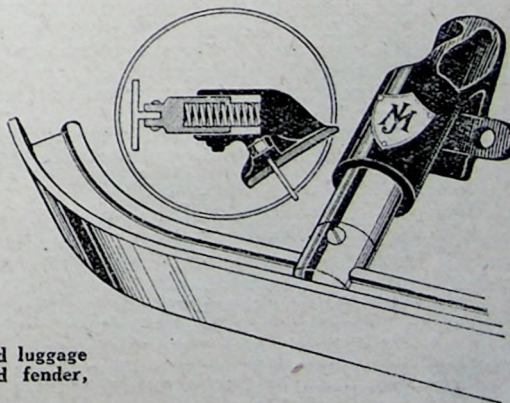
F.E.W. single-bar type, price £3 19s. 6d.



Bumpkin ash-spar fender, price £1 18s.

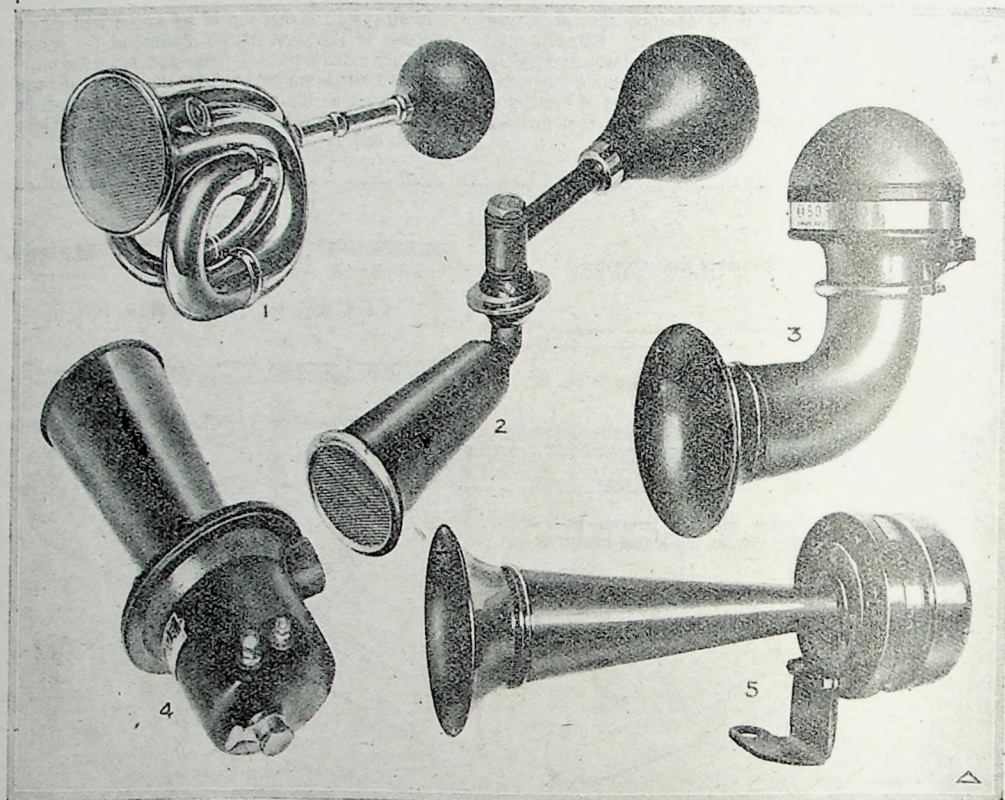


The Harker double-check bumper, which sells at £2 12s. 6d.



SIGNALS AND SIGNALLING.

THE REQUIREMENTS OF THE LAW—DEVICES WHICH SIMPLIFY SIGNALLING—
SIGNALS TO AVOID LACK OF UNIFORMITY.



Typical modern horns.—(1) A double-twist, deep-note Stadium model at 30s. (2) The Stadium Austin 7 model at 12s. 6d. (3) A modern Bosch electric type which retails from £3. (4) The ever-popular Klaxet at £1 15s. (5) The Clearhooter Junior which costs 30s.

THERE is only one signal which the law compels us all to give, namely, audible warning of approach. The regulation first appeared in the Locomotives on Highways Act, 1896, section 3 of which states that "Every light locomotive shall carry a bell or other instrument capable of giving audible and sufficient warning of the approach or position of the carriage." Subsequently, in the Motorcar (Use and Construction) Order, 1903, section 5, the regulation was made that "the driver shall, whenever necessary by sounding a bell or other instrument . . . give audible and sufficient warning of the approach or position of the motorcar."

This makes it perfectly clear that, contrary to a common belief, it is not legal to depend upon shouting, whistling or making any other noise which is not essentially produced by an "instrument."

From time to time various original kinds of instrument have been evolved for giving audible warning of approach, and these have included exhaust whistles, sirens, bells and even a form of miniature organ, but the bulb horn still holds an unassailable position as prime favourite for traffic work, whilst it would be difficult to dislodge the electric horn from public esteem.

Bulb horns are of many different kinds and can be obtained at widely varying prices, from a shilling or two up to several guineas. The principle of all types is the same, employing, as they do, a reed which is

vibrated by the passage of air, and a trumpet to magnify the sound vibrations thus caused.

Electric horns are made in a very wide variety of types and prices, but they nearly all operate upon one of two principles. In the first, the principle of the electric bell is used, an electro-magnet attracting a blade which, having been attracted by the magnet, cuts off the current and is returned to its original position by a spring. This little cycle of operations is repeated extremely rapidly and the vibration thus created can be readily imparted by a number of different means to a diaphragm, which, acting like the parchment on a drum, creates a staccato noise—due to its metallic nature—and this is intensified by a trumpet.

The other popular type of electric horn also contains a diaphragm, which is the actual sound producer, but instead of this being caused to vibrate by a "buzzer" it has in the centre of it a little hard steel stud against which a toothed wheel is caused to revolve at high speed by a small electric motor. Horns operating on this principle are known as motor-driven horns and are rather more expensive and powerful than the "buzzer" type, whilst, of course, they are somewhat more elaborate and need a little periodical attention to the commutator and bearings of the electric motor. Occasional adjustment of the stud in the diaphragm is also needed to compensate for the effects of wear.

Turning now to signalling devices which motorists fit

voluntarily, either to cut down driving fatigue, to relieve themselves of anxiety or to assist other drivers, we come first to the familiar F.W.B. sign. This is in the form of a triangle, usually attached to the back mud-guard, and was first introduced when four-wheel brakes began to gain popularity. Users of F.W.B. cars found that their very quick-acting brakes were liable to cause following drivers with the old type of braking equipment to cannon into the rear of them, and the F.W.B. sign was thus brought out to advise other drivers to keep their distance.

The F.W.B. sign had not been popular for long before variations of it began to make their appearance. Some of these were merely eye-catchers, whilst others contained electric lights which automatically lit up when the driver's foot was applied to the brake pedal. These warning devices first made their appearance in any numbers in England about two years ago and they have gained a considerable measure of popularity. Many different styles are marketed, some of which add distinctly to the appearance of a car.

In an entirely different category from the foregoing, which might be termed stop signs, are direction indicators. These also may still be considered as novelties, whilst, like stop signs, they take many forms. In each case, however, the object of the design has been to evolve an accessory which will remove the need for the driver putting his hand outside the car when intending to change his direction. Instead, he has to operate some kind of switch on the steering wheel, facia-board or the body side, and this lights a lamp illuminating an arrow or other device to show following drivers that the car is about to turn to the left or to the right. In some cases a stop sign is in-

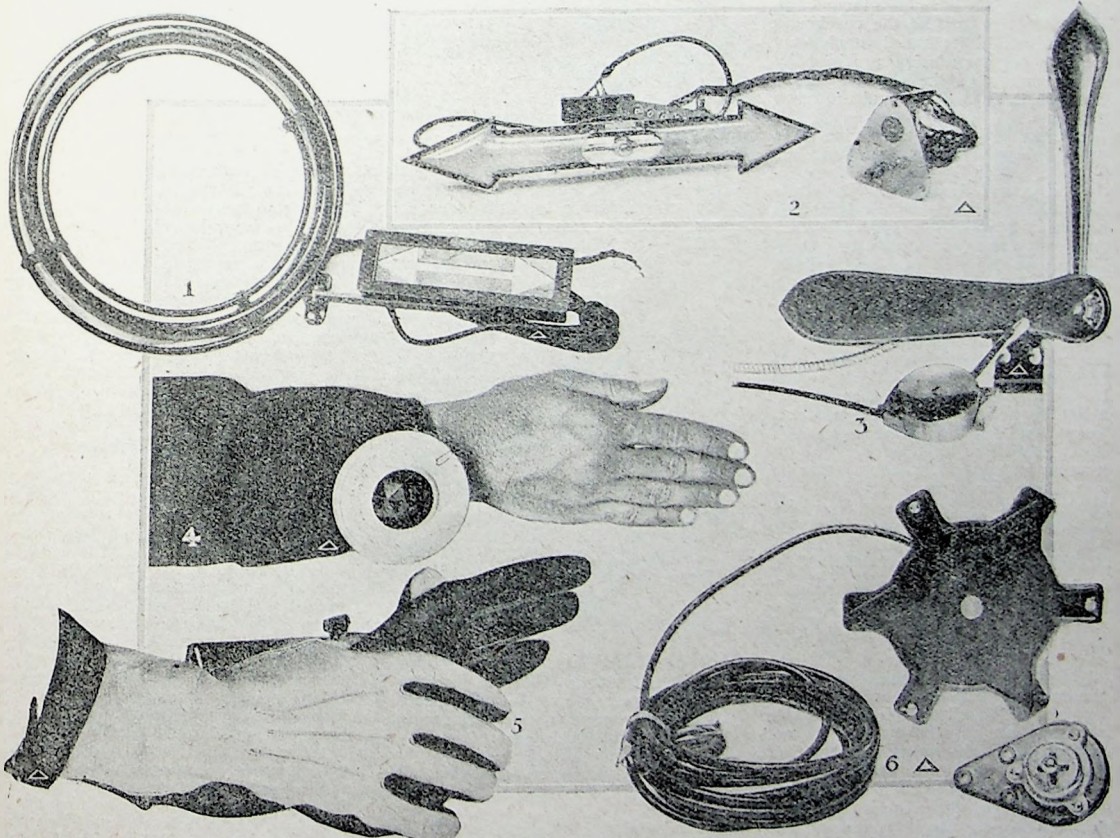
corporated in the same instrument and, in one or two examples, in addition to there being a direction indicator at the rear of the car there is another either at the front or at the base of the windscreen, which is useful for showing constables on point duty the direction in which an approaching car wishes to proceed.

All devices of this kind are suffering at the moment from lack of uniformity, both with regard to the signals which they give and to their particular method of operation, and it is felt in some quarters that until they bear a closer relationship to one another their universal popularity will not be assured. It cannot be denied, however, that—provided devices of this kind are absolutely reliable in action and convey a message which cannot be mistaken—they have a sphere of utility which suggests that their future should be assured.

If the writer were asked to tender advice to designers of instruments of this kind, he would ask them to concentrate upon simplicity and upon providing a driver with the means, not for telling others what to do, but for telling them what he himself intends to do.

It is coming to be realized that the best policy is the one which has been long extolled by *The Light Car and Cyclecar*: that is, drivers giving no hand signals of any kind except a clear unmistakable sign to following drivers that they are about to execute a manoeuvre which will prohibit others from overtaking them.

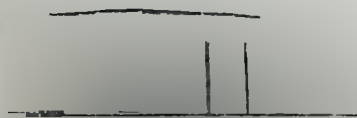
It is thought that a minimum of confusion and a maximum of safety for all concerned is obtained by drivers keeping their hands on the controls instead of waving, flapping, wagging or otherwise brandishing them in endeavours to convey the complex manual signals which one so often sees affected.



For simplifying signalling. (1) The Eurat indicator worked from a steering wheel switch. It costs £3 12s. (2) The Caveo at £5 5s. It has front and rear indicators. (3) The Adico signaller which clips to the windscreen frame and costs £2 5s. (4) Bluemel's reflector for use after dark. (5) Dunhill white-back gloves for town use are 15s. 6d. a pair. (6) The Lucas Witchway indicator costs 55s. with front and rear fittings.

AN ENTIRELY NEW 9 H.P. STANDARD.

A WELL-KNOWN COVENTRY CONCERN RE-ENTERS THE LIGHT-CAR FIELD WITH A "SMALL FOUR" INCORPORATING EXCELLENT FEATURES.



Two models of the new 9 h.p. Standard. The photograph reproduced on the left shows the Selby tourer with hood and side screens erected, whilst below is a near-side view of the Filey four-door fabric saloon. Chassis features include a side-valve four-cylinder engine, three-speed gearbox and front-wheel brakes.

EMANATING from a factory that has been associated for many years with the manufacture of small overhead-valve-engined cars, the new 9 h.p. Standard marks a departure from previous practice principally in that a side-valve power unit is now used; it has, however, many original features.

All the latest refinements, such as force-feed engine lubrication, a single-plate clutch, a three-speed gearbox mounted as a unit with the engine, and four-wheel brakes, have been included in the specification, whilst the coachwork has been carefully planned to give the maximum accommodation provided by the dimensions of the chassis. The wheelbase is 7 ft. 8 ins. and the track 3 ft. 9 ins.

Although for its size the engine gives a very good power output, nothing has been sacrificed in the interests of sturdiness and general durability. The whole layout of the car may be considered as aiming at providing a good all-round road performance combined with reasonable economy and, above all, long life.

A casual examination of the engine reveals no particularly marked departures from modern practice. One is struck by the generally clean appearance and neat arrangement of the auxiliaries, features that immediately convey the impression that maintenance work should be small. Closer acquaintance shows that this impression is not misplaced, as there are many ingenious items incorporated in the design of both the power unit and the chassis which have accessibility as their *raison d'être*.

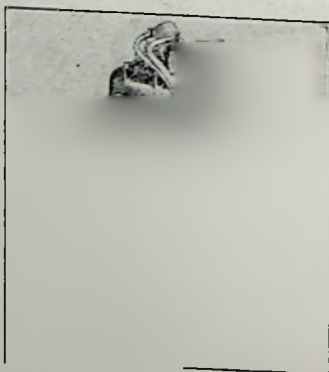
Ingenious Engine Mounting.

The engine-gearbox unit is virtually three-point suspended in the frame by a very ingenious arrangement, which is both simple and effective. The front cross-member of the chassis, which is a slightly dished steel pressing, carries the forward end of the crankcase, the latter being bolted to it in such a manner that the attachment may be considered non-rigid owing to the slight flexibility of the pressing.

The rear suspension for the unit is taken through a dished pressing clamped between the flywheel housing and the bell housing for the clutch. This pressing is attached to brackets formed in the main chassis frame members, and also provides a slightly flexible mounting.

B20

The four cylinders have a bore and stroke of 60 mm. and 102 mm., respectively, which gives a total piston swept volume of 1,155 c.c. and a R.A.C. rating of 8.9 h.p. (tax £9). The cylinder block and top half of the crankcase are cast



A near-side view of the engine showing the tandem-driven dynamo and magneto; note how the latter has been canted to give easy access to the tappets.

in one, the head being detachable without moving either the inlet or exhaust manifolds.

The crankshaft is short and stiff, and is supported in two substantial bearings, which, like the big-end bearings for the connecting rods, are of bronze-backed white metal, fitted with shims in order that wear may readily be taken up.

Duralumin connecting and light aluminium pistons combine to allow high engine speeds without vibration.

All the major bearings in the engine are fed with oil under a pressure of about 25 lb. per sq. in. from a gear-type pump located on the outside of the crankcase—where it is very accessible—and driven by spiral gears from the camshaft. There are several very desirable features concerning the lubrication system—notably an almost complete absence of piping and a convenient arrangement of the filter.

Lubrication Details.

Oil is delivered by the pump to a longitudinal conduit in the cylinder block, from which further internal passages lead oil direct to the main bearings of the crankshaft. The big-ends of the connecting rods are also supplied with oil under pressure by holes drilled through the crank webs and journals. As an example of the care that has been taken to ensure freedom from trouble, it might be mentioned that the pressure-release valve is arranged in the pump body, and communicates direct with the suction side of the system in order to avoid local excessive oiling. Incidentally, the adjusting screw for the by-pass is very easily reached.

The sump is a sheet-steel pressing held up to the lower face of the crankcase by a large number of studs in order to cut out any possibility of oil leakage. There is a filter tray which covers the oil, and serves, incidentally, to prevent the lubricant from washing about when the car is being accelerated or braked.

The whole of the valve gear is enclosed by a detachable sheet-steel cover, and is housed in a recess in the cylinder block casting, and is in direct communication with the interior of the crankcase. This, of course, ensures thorough lubrication of all the moving parts. The tappets have flat, mushroom heads, and are located in groups of four in detachable housings. These housings have recesses in the top faces, which form reservoirs for tappet lubrication.

Tappet adjustment through the aperture exposed by the removal of the cover is very easily carried out, and is facilitated by the fact that the dynamo and magneto—which, incidentally, are located in tandem on the valve side of the engine—are inclined away from the crankcase, leaving a reasonably large space between the instruments and the side of the cylinder block.

A three-point roller-chain drive is employed at the front end of the engine for distribution, the chain being adjustable by swinging outwards the dynamo and magneto line, about the lower of three studs which form a flange attachment for the units.

Port Arrangements.

The arrangement of the inlet and exhaust systems is particularly neat, the exhaust gases being carried away by a three-branch bow-shaped pipe on the valve side of the engine. The inlet gases are led right through the cylinder block to a Y-shaped passage distributing the mixture to the four inlet valves, which are grouped in pairs.

It is interesting to note that fire risks should be reduced to a minimum, as the exhaust system and electrical gear are located on one side of the engine and the carburettor and fuel supply pipe on the other.

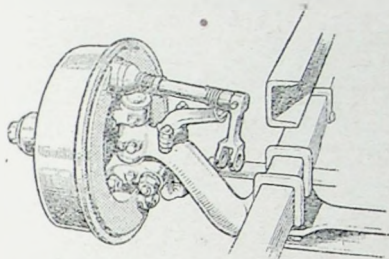
The engine is cooled on the thermosiphon principle in the usual manner.

The gearbox and clutch housing is an aluminium casting which, as stated

bottom ratio of 20 to 1, a second of 9.3 to 1 and a top of 5 to 1. Control is by a centrally disposed lever on top of the box. All gears are ground to ensure quietness in operation.

An open propeller shaft, having Hardy-Spicer universal joints at the front and rear, conveys the drive to an underslung worm-driven rear axle.

All the brake drums are of 10 in. diameter, both the pedal and the hand



A sketch of the front brake assembly showing how the axle is upswept to withstand braking strains.

lever applying internal-expanding shoes to all the four drums.

Steering is by worm and nut, the lay-out being conventional. In keeping with present-day requirements half-elliptic springs are used fore and aft.

In the body design full advantage has been taken of the underslung worm in order to get a low floor level, so that, although plenty of legroom is provided, the car is not unduly high. We were able during our visit to the Standard works to try the seating position and

elbow-room, with two passengers normally seated abreast, is ample. In the rear seats one can stretch one's legs right out without feeling cramped in any way, the cushions and squabs being sufficiently large to give adequate support to the thighs and shoulders.

This fabric saloon was the only car which we were able to inspect; it has been priced at £215. Other models will be available shortly, including a four-seater at £190.

The fabric saloon is a decidedly luxurious type, and provides excellent value for money. It has a number of attractive points, not the least of which is that a really serious endeavour has been made to provide extremely convenient entry and exit from the car. It will be seen, for example, from the photographs which we reproduce, that the rear doors are continued far back and swept over the wings. This arrangement allows one to enter or leave the car with extraordinary ease; it also does away with the need for windows in the quarters.

Good Visibility.

The windscreen consists of a single pane of glass hinged along the top, and provided with a central adjusting piece on the bottom of the screen above the fascia-board. The form of construction employed for the head, embodying thin windscreen and door pillars, provides a very clear and unobstructed view in all directions.

The fascia-board strikes a new note in that it is, in effect, divided. On the right-hand side opposite the driver's seat is an oval board containing the instruments, while on the left-hand side there is a cubby hole.

So far as comfort is concerned the car leaves little room for improvement. A detail of interest is that the front seat is adjustable, and has an adjustable squab which permits it to be moved forward when the rear passengers enter or leave the car. Purchasers are given the option of cloth or leatherette upholstery.

ENGINE DETAILS.



(Left) A drawing showing the front end of the engine and the pressed timing case. (Above) The valve gear with one of the detachable tappet assemblies removed; the oil pump is also shown detached. (Right) The rear engine mounting and centrally controlled three-speed gearbox.

earlier, is bolted to the rear face of the engine support plate. The clutch is a fabric-lined disc type with a very light free member, so that gear changing at all speeds should be very simple.

The three-speed gearbox provides a

the amount of room provided by the fabric saloon, which is known as the Pile model.

The front seat, adjustable over a range of 4 ins., really does provide sufficient legroom for a G-footer, while

Summing up, after going over its points very carefully, we came to the conclusion that this four-door fabric saloon should make a strong appeal both for town use and for touring.

The touring car, to be known as the Selby model, is panelled in steel and cellulose-finished. Like the fabric saloon, there is a choice of three colours. In many respects the interior follows the saloon and, being a Standard, the car has really good all-weather equipment. As a roomy, comfortable and economical model it is likely to win the hearts of all who like a "class" car with a really good name behind it.

NEW LEA-FRANCIS MODELS FOR 1928.

DETAILS OF A MOST INTERESTING
PROGRAMME—IMPROVED CHASSIS
WITH HALF-ELLIPTICS ALL ROUND,
WIDER TRACK,
LOW FRAME
LEVEL AND NO
TRANSMISSION
BRAKE—MANY
DETAIL REFINEMENTS.

Three views of the
new fast-touring
sports car, the
seats of which are
only 25 ins. above
the ground.

A NEW Lea-Francis chassis has been evolved in which no pains have been spared to make it a thoroughly sound job from stem to stern. This new model embraces many interesting and ingenious features which will be appreciated by the discriminating motorist.

Quite apart from a generally improved layout of the chassis components, giving a low floor level and many other desirable features, maintenance work has been considered and a large number of points normally requiring constant lubrication have been so constructed that they require only infrequent attention with a grease-gun.

The new chassis is undoubtedly the most interesting part of the company's 1928 programme, and we will deal first with this layout in detail. Special care has been taken to obtain a very low floor height. When in touring trim the top of the chassis frame is only 17 ins. from the ground—a very low dimension indeed considering the size of the chassis. Semi-elliptic springs are fitted all round. There is an ingenious form of anchorage used for the rear ends of the springs; the front ends, however, are

(Right) The ten-gallon tank of the model shown above and (inset) the type of "shackle" used for the half-elliptic springs.

located in the ordinary way by pin joints.

The chief advantages claimed for the arrangement are that big bearing surfaces are provided for the oscillating parts and, by fitting flexible covers to the mouths of the anchorages and around the springs, the whole assembly is made waterproof. Further, the covers can be packed tightly with grease, which should therefore last for long periods without attention. The actual construction employed incorporates a bracket, attached to the underside of the frame with cylindrical side pieces embracing two slotted rollers abutting each other in the centre, the two master

leaves of the spring being threaded through the slots. The construction is made clear in one of the illustrations.

Turning now to a consideration of the main frame. This is a particularly sturdy structure having four substantial cross-members located at suitable points. There is, in addition, a cross tube connecting the front dumb-irons. An especially substantial cross-member is incorporated immediately in front of the forward anchorage for the rear springs. It is of channel section, no less than 5 ins. wide and 3½ ins. deep and houses the majority of the brake cross-shafts.

The front axle follows usual Lea-Francis practice, but there are one or



SPLIT PHOSPHOR BRONZE
ROLLERS

two interesting features which have been incorporated in the new design. The track is now 4 ft. 1 in. instead of 3 ft. 9 ins. At the top of the stub axle an enclosed ball thrust race has been included, which replaces the thrust washer previously housed at the lower end of the axle stub, while in addition provision has been made for carrying the anchorage for a shock absorber actually through the beam of the axle.

The old torque arm and transmission brake has been entirely dispensed with, the propeller shaft being tubular, of large diameter, and fitted with mechanical joints at the front and rear. As will be explained later, a new braking system is used, which dispenses with the transmission drum.

Stronger Rear Axle.

As these new chassis will be sold with supercharged engines as an alternative to the normal type, the axle shafts have been strengthened considerably to cope with the extra torque. The axle casing is of entirely new design, made of two aluminium alloy castings bolted together in the centre and having malleable iron extension pieces emanating from points near the spring pads. This arrangement combines a minimum of unsprung weight with great strength.

An interesting feature with regard to the construction of the rear axle is the fact that the shafts are located at the wheel-end. They can be removed from the casing without dismantling the axle.

The brakework is very neatly and simply carried out. Following 1927 Lea-Francis practice, well ribbed drums are used, the pedal applying internal-expanding shoes to all four drums, while in contradistinction to this year's practice the hand lever applies separate shoes in the rear drums.

It will be recalled that Lea-Francis practice embraces an arrangement whereby all the cross-shafts to the brake gear are tubular and filled with oil so that they require lubrication at very infrequent intervals—a point which will appeal to all owner-drivers.

An item that will doubtless please prospective Lea-Francis owners is the

fact that the carburettor and ignition controls now pass through the steering column, an arrangement that has necessitated an alteration to the steering box. In place of a single ball thrust at the bottom of the worm spindle a ball-thrust race has been housed within the box in order to allow the tubes for the carburettor and ignition controls to pass through the worm. The single ball-thrust adjustment for end play in the worm wheel is still retained. The wheel-base of this new chassis is 9 ft. 3 ins.

Four engine units (within the 1,500 c.c. limit) can be fitted at varying prices, the 12 h.p., 12-40 h.p., 12-50 h.p. and supercharged types, all of which remain unaltered for 1928, except the last-mentioned, as, in the interests of space, the water pump has been housed at the forward end of the timing cover and driven from the dynamo pinion. The only other chassis alteration of note lies in the ratios provided by the gearbox. These are now: First gear 15.66 to 1, second 9.32 to 1, third 6.12 to 1 and top 4.7 to 1, the reverse ratio being 20.52 to 1.

The Latest Four-seater.

Perhaps the most interesting feature of the Lea-Francis programme so far as coachwork is concerned is the addition of a very low four-seater fabric tourer which, despite the comparative small appearance, really gives excellent accommodation and good protection from the elements. The radiator is set sloping at the same angle as the two-panel flat windscreen, a feature that alone gives the car an impression of speed. The top of the scuttle is almost parallel to the ground, the body sides sloping downwards from the rear of the screen and then upwards again around the rear squab. The top of the body sides is only 38 ins. from the ground, while the height of the front seats is but 25 ins.

The body throughout has a curved contour which terminates in a semi-bulbous back. It is covered throughout with fabric—even to the bonnet—and the interior is upholstered in best quality furniture hide. The interior furnishings are of a very high order, the fascia board being finished in white or

cream celluloid with an unusually complete array of instruments, a clock, speedometer, rev. counter, thermometer and oil gauge being included in addition to the usual electrical gear. A full equipment of hood and side screens is also included in the specification, while in addition a tonneau cover with hood envelope to match the colour scheme are standardized.

With a 1½-litre supercharged engine the price of this model is £495, a two-seater with a similar specification also being available at the same price. Other coachwork fitted to this new chassis follows very similar lines to that already described in *The Light Car and Cyclecar*. The prices, however, vary in certain respects. With a 12 h.p. engine the two and four-seater tourers cost £295 each, the coachbuilt saloon £395 and the Lea-Fabric saloon £468. With the 12-40 h.p. sports engine and wire wheels the two and four-seater tourers are priced at £325, the fixed-head and three-quarter folding-head coupes at £400 each, the Lea-Fabric saloon at £440, and the two-door coach-built saloon at £450.

Brooklands Sports Models.

The 12-50 h.p. Brooklands sports model has a variety of extras in addition to the two-port two-carburettor cylinder head, notably Dewandre servo brakes, two spare wheels sunk into the front mudguards, a radiator thermometer and dash ventilators. The two and four-seater tourers on this chassis are £425 each, the Lea-Fabric saloon £480 and the two-door saloon £490.

The existing range of 10 h.p. cars will be continued, the chummy or occasional four-seater model with an 8-ft. wheelbase and four-speed gearbox being priced at £225. The longer chassis, with an 8-ft. 9-in. wheelbase, four-wheel brakes and shock absorbers, is available with two and four-seater touring bodies and two-seater semi-sports body at £275: the Gordon England fabric saloon and the Warwick light saloon cost £315 each. A 12 h.p. engine can be fitted to any of the above models at an extra cost of £10.

A MUCH IMPROVED SINGER JUNIOR.

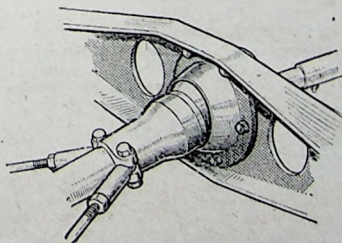
Half-elliptic Front-springs — F.W.B. — Plate Clutch.

ALTHOUGH the Singer Junior has enjoyed very considerable popularity since its introduction at last year's Olympia Show, and has proved itself to be thoroughly satisfactory in this country and abroad, the manufacturers, Singer and Co., Ltd., Canterbury Street, Coventry, have decided to incorporate many improvements in the 1928 model.

In the first place, the chassis will be modified to incorporate half-elliptic springs in front for taking the reaction of Rubury-Owen front-wheel brakes, which will be fitted as standard. This in itself must be regarded as a sure indication that the manufacturers are fully alive to the desires of the motoring public, because, although the rear-wheel brakes of the present Singer Junior are amply powerful, the fitting of front-wheel brakes undoubtedly will

have the effect of enhancing the popularity of the car.

Other important modifications include the use of a single dry-plate clutch in place of the existing leather cone, and



The new ball joint at the forward end of the torque tube.

an alteration in the method of attaching the torque tube to the frame, a large spherical joint being used on the front end of the tube in the new model, whilst the rear axle will be stayed with tie-rods.

The general design of the engine for 1928 will be similar to the present type, but an improved method of driving the overhead camshaft will be employed; this will enable the cylinder head to be removed without the need for subsequent retiming of the valves, as it has been found that novices, when decarbonizing the present type of engine, have experienced difficulty in refitting the head, owing to the need for setting the camshaft in an exactly correct position before replacing the chain.

Instead of an inverted-tooth chain, the camshaft of the 1928 model will be

driven by a duplex roller chain, whilst the magneto and dynamo will be driven by skew gears instead of bevels, as in the present model. By making this alteration the designers are of the opinion that a more consistently silent drive will be obtained, as very careful meshing of bevel gears is necessary if they are to run without hum.

The brake shoes of the new model will be steel pressings instead of the present aluminium castings. Central and individual adjustment will be provided, the first named by means of a hand wheel and the latter by means of nuts on the ends of the brake rods; thus it will be possible to obtain an exactly equal effect from each brake.

A 16-in. steering wheel with moulded finger grips and a moulded covering for the spokes will replace the present rather smaller plain wheel, whilst a consider-

able improvement in the lighting equipment will be made by providing a five-lamp set instead of the existing three-lamp type.

This modification will be appreciated by everyone who does a large amount of night driving, as larger bulbs can be fitted to the headlamps, whilst these, being placed lower down, will provide a much better driving light. Similarly, for use in town, the smaller side lamps should be found to be ample, and will result probably in a saving in current consumption. A luggage grid is to be a standard fitting for the new models; this will be found very convenient by all motorists who use their cars to a large extent for touring.

With regard to the bodywork, it is proposed to increase the width of the existing four-seater body, which, as is well known, already provides comfort-

able seating accommodation for four adults. In addition, it is likely that there will be a two-seater body with a double-dickey seat, a four-seater model with "sun-saloon" roof (like a drop head) and with celluloid windows arranged to drop down into the four doors of the body. This will be made, of course, under the Alexander patents, and should prove to be an extremely popular body, as there is undoubtedly a demand for a "closed car which opens" as distinct from an "open car which closes."

In addition, there will in all probability be a fabric saloon body, as it has been proved already that the engine develops ample power for coachwork of this type.

No prices for the new models have yet been announced, but no doubt they will be available shortly.

IF FIRE BREAKS OUT.

THE possibility of an outbreak of fire is one which has to be faced by every motorist, whether he is actually driving or whether his car is locked up in its garage. Consequently, one of the wisest precautions a car owner can take is to provide himself with an efficient and reliable form of extinguisher and to fix it in such a position that it can readily be reached at a time when fractions of seconds count vitally. Having installed such an instrument the owner should see that it is kept ready for use and that the extinguishing preparation is renewed when deterioration through age—generally a matter of years—makes it necessary.

The methods of using these instruments vary with the types, and full particulars are always provided; but, in the absence of a fire-extinguisher, there are several essentially important steps which should be taken so soon as there is a sign of fire.

The most common cause is a blowback, which ignites the petrol issuing from the jet, the flames soon spread-

ing to the float chamber. The first thing to do is to turn off the petrol, and the second to rev. up the engine so as to exhaust the fuel in the carburettor as soon as possible.

If the fire occurs in a garage and is of a general character, every effort should be made to get the car outside. If this is impossible, anything portable which is likely to catch alight should be removed from the reach of the flames.

Never in any circumstances throw water on the flames. Use sand, gravel, earth or grit.

If a car is insured it is best to leave the burnt-out chassis just as it is, so that the insurance official who will inspect the wreck may satisfy himself as to the genuineness of the "job."

Prompt and unflurried action is the best method of dealing with a fire and in all circumstances it will pay to follow the somewhat paradoxical advice "keep cool!"



TYPES OF FIRE
EXTINGUISHER.

(Left to right) The Valor made in brass at 45s.; or nickel-plated, 47s. 6d. The Pyrene Junior, which is sold complete with clip at 35s. Two views of the Stop Fire instrument marketed at 30s. The Baby Knockout is listed at 28s. 6d. with the clip. The Pyrene standard model is sold at 55s. in brass and at 60s. nickel-plated or black enamelled.

Rich Mixture

Light Car Comment
and Advice.

by Foss

Arncliffe in Wharfedale. It is one
of the many "prettiest villages in
England."



A Bright Idea.

THIS Safety First Number impresses me as being a singularly happy idea, and one which might well be repeated each year. As time passes so traffic conditions alter, the character of roads changes and driving methods have to be varied to suit them. Similarly, new inventions come on the scene, and old ideas gradually become obsolete.

I do not think it can be denied that a comprehensive summary every year of the season's safety-

first inventions with useful articles embodying the lessons of a further twelve months on the road can be anything but extremely beneficial to all road users.

Important Inventions.

THE past two or three years have witnessed the popularizing of numerous important valuable safety-first inventions. The most notable of all, of course, are front-wheel brakes; next I think in order of importance come automatic windscreen

wipers, "non-skid" tyre treads and rear-view mirrors. Bumpers, too, deserve a place in the list, but I am not absolutely satisfied that their sphere of utility is not more in the nature of mishap-eliminators than life-preservers.

Dangers of the Past.

HAS everyone noticed, I wonder, how very much safer roads now are for rational beings than they were two or three years ago? This, I think, is due not to the roads themselves being wider and straighter but to drivers to-day *expecting* an emergency to arise at all danger points instead of hoping that it will not—and "chancing" it. To-day the number of drivers who take risks is very small indeed. If they are novices they soon are taught a summary lesson, whilst if they have any experience as drivers they understand the nature of the risks of the road and avoid them.

Incidentally, the number of novices to-day is decreasing—and by novices I mean those who begin their career at the wheel with negligible road-faring experience. Nearly everyone to-day before he buys his own car has driven many miles as a passenger in cars belonging to friends, and possibly has motorcycling or cycling experience in addition.

Idiots!

MY compliments to the six people who, on a recent Sunday, pulled up their cars for picnic lunches at dangerous bends on the road between Oxford and Dorchester. Singularly enough, they were all facing the bends, so that overtaking cars had to risk a head-on smash when pulling out to pass.

Is it fair, with the hazards of the road as they

are, to create a peril of this character? With a car so placed one cannot pass except by going on to the wrong side of the road, and this is a position that no driver should be in on a bend. Yet what can one do? Personally, I think the time is approaching when people guilty of such thoughtless conduct on busy roads should be prosecuted. After all, in towns car owners are haled before the Bench and fined for constituting an obstruction which often is purely technical, but in cases like the above there can be no doubt of the danger.

The Young Idea.

A FRIEND of mine was giving a lesson in astronomy to his young hopeful. "That is the wagon and horses," he said, pointing to the northern sky. "Wagon and horses?" echoed the boy. "I cannot see anything like a wagon and horses. Do you mean those stars like a car with a man holding his left hand out?" Shades of Copernicus!

Queer Sights Seen on the Road.

A MAN changing a wheel of a large saloon car with the engine running.

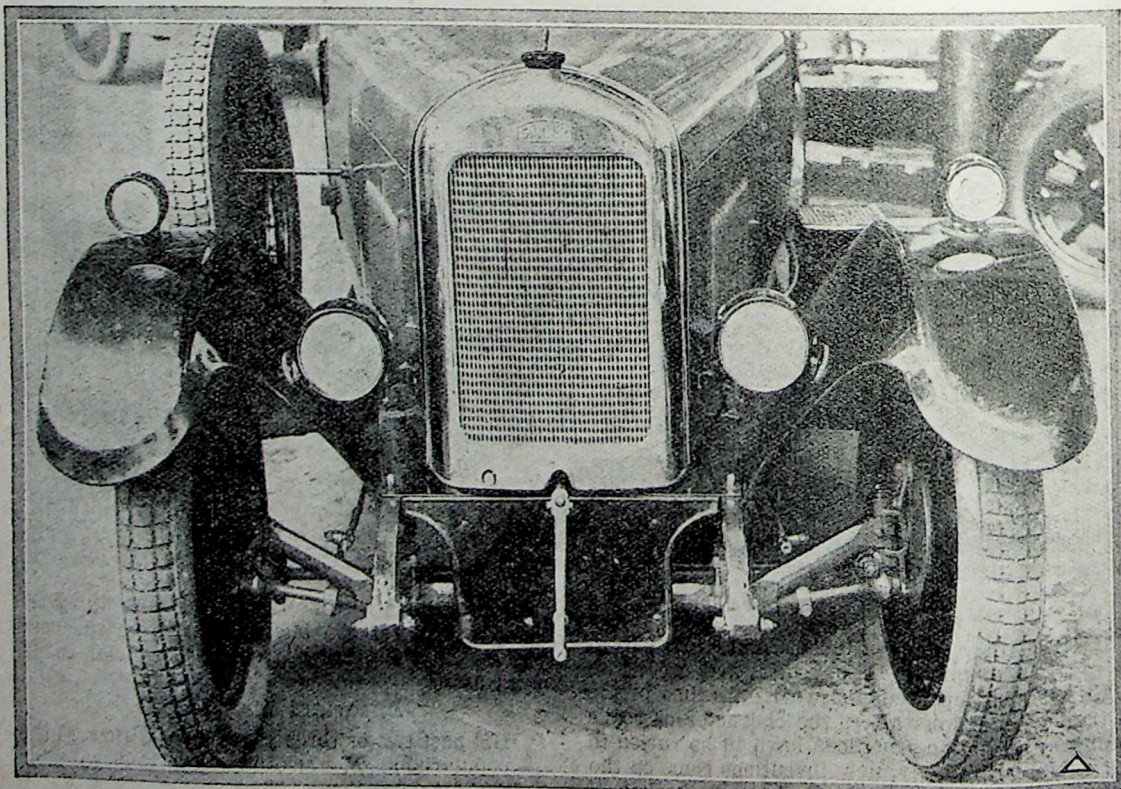
Another changing a wheel with four people seated in the car.

A driver speeding unabashed through Dunstable with an arm round his fair companion's neck.

Five people without raincoats in a brand-new car going along in a deluge with the hood down.

A man with top hat and flowing white beard standing in a dicky and giving signals to following traffic.

An Aero-Morgan with a large-size "pram" strapped over the tail.



SINGER JUNIOR
IMPROVEMENTS.
B28

— On page 431 we describe the 1928 Singer Junior, which has been much improved. The new axle, front brakes and improved lighting set are shown.

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Road Sense.

WE wish to acknowledge with sincere thanks the most valuable advice given to our readers in this Special Safety-first Number by many prominent men. A message from the Home Secretary is given special prominence and rightly so. Sir William Joynton-Hicks was for many years chairman of the A.A., he is a man whose brilliance in a prominent office has received world-wide recognition, and his words, wherever uttered, are always most enthusiastically received. He has been cheered to the echo at many motoring functions, which, in spite of his heavy load of political responsibility, he has found time to attend, and he has shown his audiences on these occasions that he sympathizes with the many legitimate grievances which motorists have to support. He not only sympathizes with them but is doing his best to have the root cause of them removed.

Readers will find that Sir William and our other distinguished contributors point out that possession of a quality which has come to be known as "road sense" is the all-important factor which makes the difference between a safe and a dangerous driver. *The Light Car and Cyclecar* has always done its best to explain what "road sense" means, to introduce new aspects of it and to show readers how its doctrines should be applied. In this issue we have endeavoured to compress between the covers our accumulated knowledge of the subject, and if only one smash is saved as a direct result we shall feel amply rewarded for our pains.

The Perfect Driver.

THERE is one way, and one way only, to become a perfect driver, and that is to regard driving as an art and to study it as such. Even then, however, aspirants to perfection will need that inborn gift which lifts the doughty exponents of all games and crafts above their fellows, and they will need, in addition, lessons in the hardest of all schools—the school of experience. This is incontrovertible. The man who has ridden horses, cycles, motorcycles and combinations, who has driven large cars and small, lorries and steam wagons, will be a safer, surer and better driver in every way than his neighbour whose sole road-faring experience—no matter how lengthy it may have been—has been gained in controlling broadly

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

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

Conducted by
EDMUND DANGERFIELD.

TEMPLE PRESS LIMITED,
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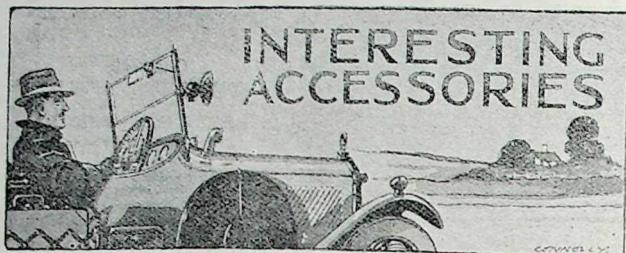
Inland Telegrams - "PRESIDENT,"
Holb, London."

Topics of the Day

the open road we can give a thought to other wayfarers whom we meet, and even in our beds we can visualize emergencies and plan ways and means for countering them. Thus is it given to us all to attain a degree of driving ability approaching closely to perfection, but only to the few does the opportunity exist ever to claim the title of The Perfect Driver.

Marionettes of the Cross-roads.

IT is opportune in this issue to recall that we put forward a plea a fortnight ago for the standardization of police uniforms. We wish now to put forward a further plea—a plea for the standardization of police signals. It is well known that a standard code is in existence, and that the code in question—although perhaps somewhat more complicated than is strictly desirable—is intelligible, and should serve its purpose well. But the police of the country do not adhere to it. In some towns the point-duty constables give entirely different signals from those in others. The consequence is that careful, experienced drivers often find themselves in positions not only of embarrassment but of definite danger. The cause is to be found in the fact that pompous—or perhaps over-zealous—men in blue usurp the position not only of controller but of dictator. They endeavour to make a dozen different signals at one and the same time, and they succeed only in making themselves look ridiculous and their signals unintelligible. The Metropolitan and Midlands police may be excluded from these strictures, but those in many towns of the north are in a different category. Their gesticulations are difficult for the local drivers to comprehend, whilst to strangers they mean nothing. We hope that steps will soon be taken to educate them in the standard code, or, if they should be familiar with it already, to exercise suitable disciplinary measures to ensure that they adhere to it.



Osram Anti-dazzle Bulb.

AN electric headlamp bulb designed to reduce dazzle caused by upward-cast rays is marketed by the General Electric Co., Ltd., of Magnet House, Kingsway, London. The bulb, which is of the normal type, is supplied for all voltages and wattages, the reduction of dazzle being due to a coating of yellow semi-transparent material on one half of the glass.

The position of the coating is so arranged that when the lamp is in position in its socket all rays above those in a plane parallel with the road are reduced. Dazzle, which is in many cases caused by upward-cast rays, is effectively prevented, and rays projecting above a line parallel with the road surface are cut off at their source. The filament is so arranged that it is in the same plane as the edge of the yellow coating, the object being to provide maximum efficient illumination and to avoid cutting off useful light, as would inevitably result were the filament placed actually within the coated hemisphere. The bulb is available in many different types suitable for nearly all cars, a six-volt 18-watt bulb—a typical size for most light cars—costing 3s. 7d.

is such that no motorist will be deterred from placing the non-skid devices on the wheels when roads are greasy and it is desired to maintain speed with safety. No tools are necessary for the attachment of the chains, and the rear wheels, for instance, can be fitted with chains in a few minutes. Off'n'on chains are supplied in various sizes to fit all types of tyre, and prices range from 35s. to 90s. per pair.

Austin Seven Petrol Container.

A USEFUL reserve petrol and oil container for Austin Sevens has been placed on the market by the Prima Co., Ltd., Commercial Street, Birmingham.

The Prima reserve petrol and oil container, specially made for Austin Sevens.

ham, at the reasonable price of 19s. 6d. The container, which is designed to carry a reserve supply of half a gallon of petrol and a pint of oil, clamps on to a small locker suitably shaped to fit the running board. Fixings are provided to enable the complete locker and container to be attached to the rear side of the car, forward of the door itself, but the opening of the door is not restricted in any way. The locker is of a convenient size for holding small tools and accessories and the door of the compartment is fitted with a strong lock.

An ingenious clamp holds both petrol and oil containers to the top of the locker, and it is impossible to remove either container without the aid of a special key to release the clamping device. The orifice of the petrol tin is of the conventional size, so that no difficulty will be experienced in filling the container from a garage pump; a 5-in. flexible pourer is provided which screws on to the neck of the oil tin and so facilitates replenishment of the sump. Both tool locker and reserve containers are finished in black enamel with plated fittings and the complete accessory adds both to the appearance and the utility of an Austin Seven.

A Flexible Tail Lamp.

AN accompanying illustration shows a novel electric tail lamp, the principal feature of which is that it is constructed almost entirely of rubber and is therefore immune from the effects of vibration or minor collision.

A disc of special talc substance is substituted for the usual red glass, so that even if the lamp were bumped by a following car no damage would be done to the lamp assembly. The complete lamp is supported on a flexible rubber arm, attached to the body by means of special clamps provided, and the resilient support effectively prevents road vibration being transmitted to the delicate filament of the electric bulb. The Flexarm, as the lamp is called, is reasonably priced at 7s. 6d., and is marketed by the County Chemical Co., Ltd., Bradford Street, Birmingham.

The Flexarm rubber tail lamp cannot be damaged by ordinary road vibration.

Useful Force-feed Oiler.

A VERY serviceable and well-made forced-feed oilcan, holding one pint is being made by Joseph Kaye and Sons, Ltd., Lock Works, Leeds, the price being 6s. 9d. Its construction is very robust, the seamless container having serrated edges which are soldered to the cover, while the same construction figures in the spout fixing. Being of the force-feed type this oiler is extremely useful for lubricating parts which are difficult to reach, the

The Security locking device which automatically tightens up Off'n'on non-skid chains.

Off'n'on Non-skid Chains.

A CRITICISM sometimes levelled against non-skid chains is that it is necessary to jack up the wheels before the chains can be attached. With this point in mind, the Pyrene Co., Ltd., 9, Grosvenor Gardens, London, S.W.1, are marketing a non-skid device known as the Off'n'on chain, which can be put on by hand without the use of a jack. A special locking device is incorporated which automatically tightens up the chain as it is fitted, so facilitating the task of placing the chain on a wheel. The lock cannot open accidentally as it is positively held closed by adjoining links.

In brief, the ease of fitting the chains

TROJAN *happy families*

No. 6 THE OLIVERS of HIGHWOOD

RATHER a unique family, the Olivers—a widower father and three bachelor sons, ages twenty-nine to thirty-six. A more devoted 'foursome' could hardly be imagined. They work together in a prosperous family business, they have holidays together, and they drive together, in their Trojan.

Mr. Oliver, senior, first noticed the Trojan four-seater car at the 1926 Olympia Show. One of the salesmen on the Leyland stand was demonstrating the priming device which makes starting, even in the coldest weather, as simple as opening an umbrella!

Well off as they were, the Olivers had all decided that until they found a car which did not require taking to pieces, that needed no attention to speak of, they preferred to remain car-less; so they bought the Trojan because they realized, as always claimed by the makers, that the Trojan really is the

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HIGH-SPEED WORK ON TRACK AND ROAD.

LOWESTOFT—MADRESFIELD AND YORK—A "THOROUGHLY MOIST" LUGANO RUN—COMPETITOR'S UNLUCKY SPILL IN THE SOUTHAMPTON-EXETER—THE SURBITON CLUB'S "150" AT BROOKLANDS.

Lowestoft Open Speed Trials.

THE Ipswich and District M.C. ran a series of speed trials along the new concrete sea-wall at Lowestoft on Thursday, September 1st, the track being a kilometre in length and sufficiently wide to accommodate two cars abreast comfortably. The organization on the whole was excellent, the only apparent mistake being the inclusion of too many classes—there were 33 in all—in the programme. Of these only three catered for the light-car owner, and owing to lack of entrants the first—an open event for cars up to 1,100 c.c.—was abandoned.

The weather kept fine throughout the day, thus doing its share towards making the event successful.

RESULTS.

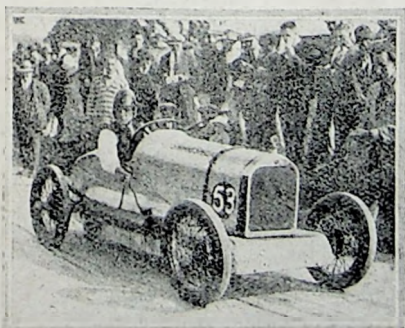
Event 23.—Cars up to 1,100 c.c. (Eastern Centre Members).—1. D. B. Hay (1,038 Amilcar); 2. J. T. Page (1,087 Salmson). Time, 44.4 secs.

Event 24.—Cars up to 1,600 c.c. (Eastern Centre Members).—1. D. B. Hay (1,038 Amilcar); 2. J. T. Page (1,087 Salmson). Time, 43.8 seconds.

Speed Trials at Madresfield.

AT the meeting held by the Worcestershire Motor Club on Saturday last a fair entry for the car classes was obtained. All the competitors were allowed two runs, the faster to count.

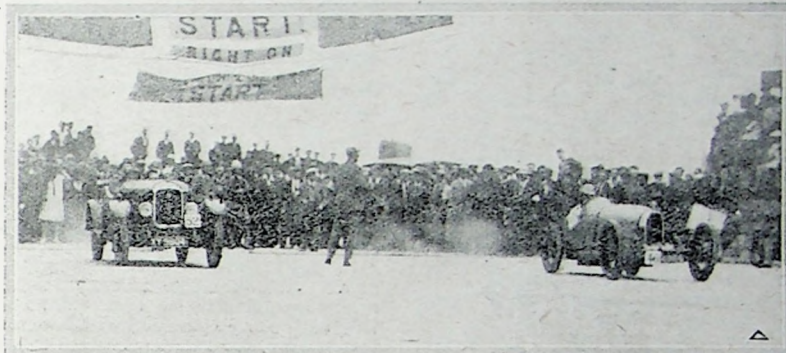
The meeting was opened by R. Forestier Walker, who, driving an Austin Seven, completed the standing-start kilometre in 40½ secs., equal to 55 m.p.h., an excellent performance. The next man—A. R. Simmins, driving a Simmins Special—recorded 36½ secs. (61½ m.p.h.), and on the first run tied with T. H. Shorthose (1,500 c.c. Bugatti). Even faster runs were made by Morgans. H. C. Lones beat the Bugatti time by ½ sec. and R. T. Horton



A. R. Simmins (Simmins Special) awaiting the word "Go!" at Madresfield.

clipped another second off, making an average for the standard start kilometre of 65 m.p.h.

In the second series of runs T. H. Shorthose was ½ sec. faster and equalled H. C. Lones's performance in the first run in his Morgan. This driver, how-



LOWESTOFT SPEED TRIALS.

V. E. Harrison (Alvis) and C. Staniland (Bugatti) at the beginning of the fine run along the sea wall.

ever, on the second run averaged 65 m.p.h., while R. T. Horton went still better and averaged 66½ m.p.h., actually tying for fastest time of the day for the three-wheeler class with A. Greenwood on a Brough-Superior sidecar. At the end of the meeting the tie was run off,



Taking a "breather" on the St. Gothard Pass, in the London-Lugano.

Horton making an exactly similar time to his previous best, while Greenwood clipped slightly more than 2 secs. off his previous best time.

RESULTS

Cars up to 850 c.c.: R. Forestier Walker (Austin Seven), walk-over; cars up to 1,000 c.c.: R. Forestier Walker (Austin Seven), walk-over; cars up to 1,100 c.c.: A. R. Simmins (Simmins Special); cars up to 1,500 c.c.: T. H. Shorthose (Bugatti); cars up to 2,000 c.c.: T. H. Shorthose (Bugatti); cars up to 3,000 c.c.: C. W. Johnstone (Bugatti); three-wheelers, 1,100 c.c.: A. Greenwood (Brough-Superior s.c.). Standard touring cars up to: 850 c.c.: B. Wilesmith (Austin Seven); 1,100 c.c.: L. M. Somny (Salmson); 1,500 c.c.: L. M. Somny (Salmson); unlimited, T. G. Hunt (30-98 Vauxhall). Standard sports cars up to: 850 c.c.: J. B. Barnes (Austin Seven); 1,100 c.c.: L. M. Somny (Salmson); 1,500 c.c.: R. R. Jackson (Frazer-Nash); unlimited, R. R. Jackson (Frazer-Nash).

SAFETY FIRST.

"In my opinion lack of judgment is one of the prime causes of accidents, and I think it would be an excellent education if a certain section of the motoring public had the opportunity of driving in, say, a road race."

(A racing driver who prefers to remain anonymous.)

The M.C.C. London-Lugano Run.

THIS year's run was not blessed with the good weather which characterized the previous runs of the club to sunny Lugano.

The start was made at 11.30 a.m. from Antwerp on the morning of August 21st in a steady drizzle. The morning run via Malines to Louvain was wet all the way, but after lunch the rain cleared enough to give a fair trip through Namur, Dinant, and over the Ardennes to Rochefort, the night stop.

The second day was marked by a trying cross-wind. France was entered between Bouillon and La Chapelle with very little formality, and the road then lay through Sedan to Verdun, where lunch was arranged. The afternoon run led through Toul to Nancy for the night stop.

The following morning opened with more rain, which continued all day long. The participants were now approaching very much higher ground, the lunch stop being at Gerard-Mer.

In the afternoon Col de la Grosse Pierre and Col de Bursang, rising to about 3,000 ft., were crossed, and gave drivers a slight taste of what was to come later on. This day's run finished at Basle, and a number of members of the Swiss club met the competitors at St. Louis just outside the town to help, if needed, in the usual Customs formalities.

Wednesday morning broke with still more rain, which continued all the way to Zurich, which was reached in a torrential downpour. In the afternoon the Klausen Pass, the beauties of which were shrouded in mist and rain, had to be crossed: it rises to 6,000 ft. The day's run—of a very interesting nature—finished at Aldorf.

Thursday provided only a short run along the lake of Lucerne via the Axenstrasse. The weather abated sufficiently for hoods to be furled for this short distance, but the following morning (Friday) saw Jupiter Pluvius in the ascendancy once more. The route

led over the Brunig Pass (3,296 ft.) to Meiringen. Here at lunch-time came the serious news that the Grimsell Pass was blocked with snow and that the party would not be allowed to proceed.

On Saturday morning some of the drivers started to climb the pass to find out if it was possible to get over. They discovered that the road was partly opened and climbed as far as the Grimsell Hospice. Here they were delayed some four hours while a passage was cut through the snow to allow of further progress. They ultimately got through to Andermatt by about 7.30 in the evening, the mileage for the day being only 42½. The height attained on the Grimsell and Furka Passes between Meiringen and Andermatt is 8,000 ft. The last day's run took the cars via Hospenthal and over the St. Gotthard (7,000 ft.). No sooner was the St. Gotthard passed than beautiful sunshine greeted the competitors, and as the cars slid farther down into the valley coats and wraps were discarded and spirits went up. The lunch stop this year was arranged at Bellinzona.

The afternoon run to Lugano was short, and everyone arrived in time for tea. The following checked in at Morel's Garage at the finish:—

J. van Hoordenk (Essex), C. E. Barnes (Rolle), S. H. Roe (Riley), E. H. Grimsdell (Alvis), E. H. M. Grimsdell (Alvis), F. Broomfield (Lea-Francis), J. Hobbs (Riley), J. H. Ahern (Invicta), R. Francey (Clyno), Edwin Marks (Austin), D. C. Prentice (Riley), H. G. Reigate (Invicta), E. N. Williams (Buick), W. E. Still (Alvis), W. L. Allen (A.C.), Chas. J. Robinson (Bean). No mechanical mishaps were reported, but punctured tyres were numerous and very frequent, some reporting four and five a day.

The Southampton—Exeter.

IDEAL weather favoured the J.C.O. South-western Centre's seventh annual Southampton-Exeter trial, which took place on Saturday. Of the 18 entries, four were non-starters, these being H. Jefferis (Frazer-Nash), H. Stevens (Lea-Francis), S. T. Clark (Alvis), and L. W. Dalton (Alvis).

Porlock, the first test hill, was in excellent condition, and, in consequence, some fine climbs were made, notably, that of the only woman driver in the trial, Miss Weekes (A.C.). Hereabouts T. V. G. Selby (Rhode) was reported as having had trouble.

Between Porlock and Lynmouth competitors took a sharp left turn down a steep declivity marked "Unfit for Motors" into the Doone Valley. This was the curtain raiser to Leeford

Hill, christened "Smayters" by many, as it was in the nature of a little surprise for which Messrs. Smith and Hayter were said to be responsible.

On the run down C. Allison (11.9 h.p. Riley) overturned, but escaped with a severe shaking. His passenger, Mrs. Allison, was not so lucky, suffering a broken collar bone and rib. E. J. Sleep (Riley) immediately came to the rescue and very sportingly took the injured passenger to the nearest doctor. It is hoped that the promoters will see fit to give him a "Samaritan's gold."

The actual ascent of Leeford was characterized by a steep, loose surface and two acute hair-pin bends. H. Duncan Smith (Frazer-Nash) had to reverse on one of the bends owing to insufficient lock, but the remaining cars which actually tackled the hill made clean climbs. Several competitors took the wrong turning in Oare and did not climb Leeford at all.

C. L. Clayton's Amilcar now has about 150,000 miles to its credit, and it behaved petulantly on Lynmouth, cutting out on one cylinder just before the first steep rise. Despite this, the driver managed to coax it round the left-hand bend, where he changed a plug and made an easy restart. Very hard luck and the only failure on the hill.

Beggars' Roost, the final test hill, caused most of the competitors a good deal of anxiety, as it was very loose. Miss Weekes (A.C.) failed almost at the summit of the steepest section owing to wheelspin, and C. B. Moss-Blundell (Salmon) also was reported as having been in difficulties.

The final check was at Stoke Cannon Church, four miles from Exeter on the Tiverton road, where the following signed off:—

C. L. Clayton (Amilcar), B. B. Tebbutt (Morgan), D. D. Smith (Frazer-Nash), L. E. Noyce (Austin), C. B. Moss-Blundell (Salmon), J. H. Osborn (Talbot), G. V. Dawson (Fiat), Miss J. E. Weekes (A.C.), R. H. Cooper (Lea-Francis), Gordon Hendy (Lea-Francis), and C. H. Blenkinsop (Calcott).

A dinner and dance at the Rougemont Hotel, Exeter, brought the day to a close. The honoured guest was Alderman P. V. Bowyer, Mayor of Southampton.

The following gained the principal awards:—G. V. Dawson (Fiat), Perrins Trophy and first-class award (1,500 class). C. L. Clayton (9.50 h.p. Amilcar), G.F.S. Cup and second-class award (1,100 class). E. Noyce (Austin), third-class award.

The Surbiton "150."

"SPEED with economy" was the slogan adopted by the Surbiton Motor Club when framing the regulations for the 150-mile race held at Brooklands last Saturday, September 3rd.

The object of the race was to discover, if possible, whether any considerable difference in the speeds of the competing cars would be made by imposing a limit upon the amount of fuel to be used in covering the 150 miles of the special 46-lap course.

The race was divided into seven classes, of which the first three, A, B and C, were for cars up to 1,500 c.c. capacity. In class A, for 750 c.c. cars, the fuel allowance was 4.75 gallons; class B cars (1,100 c.c.) had an allow-

THE SOUTHAMPTON-EXETER. (1) Miss Weekes (A.C.) rounding one of the hair-pins on Leeford. (2) J. P. Dingle, the winner of the Club's race at Brooklands. (3) J. P. Dingle, the winner of the Austin Seven. (4) J. P. Dingle, the winner of the Austin Seven. (5) Vernon Balls (Amilcar) leading. (6) News was taken in a clockwise direction.

ance of 5.5 gallons, whilst in class C, for 1,500 c.c. cars, 6.5 gallons of fuel were allotted.

Of the nine entrants for these three classes there were two non-starters. These were F. H. Boyd-Carpenter (Austin, class A) and B. S. Marshall (Mathis, class C). The withdrawal of Boyd-Carpenter's Austin left only J. P. Dingle (Austin) in class A, whilst Vernon Balls (supercharged Amilcar) was the only entrant in class B. There were five starters in class C, these being F. Hallam (Alvis), R. M. V. Sutton (Lea-Francis), S. H. Newsome (Lea-Francis), D. M. K. Marendaz (Marendaz), and T. E. Rose-Richards (Bugatti).

Handicapping was by classes, and J. P. Dingle, starting off in his Austin at 2 p.m., had a lovely run until Vernon

Balls got going 31 mins. later. After a wait of a further 15 mins. the drivers in class C received the starting signal. S. H. Newsome (Lea-Francis) and T. E. Rose-Richards (Bugatti) had a little difficulty in starting their engines, but lost only a few seconds.

Meanwhile, Dingle had been lapping steadily at just over 52 m.p.h. and had done 8½ laps when Vernon Balls started. This driver, by the way, deserves credit for having entered for the race whilst knowing full well that to finish the course on his fuel allowance of 5.5 gallons was almost a forlorn hope with a 1,086 c.c. supercharged engine; moreover, he had no time in which to carry out any economy tuning.

Soon after 3 o'clock the spectators at the fork hair-pin heard the roar of the big cars, which had now joined in the race, and excitement ran high.

Vernon Balls (Amilcar) was the first to call at the pits, his trouble being a broken oil pipe. This was on his ninth lap, and about three laps later he was in again with a blown cylinder-head gasket. He fitted a new gasket and re-started in the amazingly short time of 13 mins., but his strenuous efforts availed him nothing as he ran out of petrol on his 33rd lap.

At the end of 30 laps Dingle was still leading the field; he was followed by Capt. M. Campbell (1,990 c.c. Bugatti), whilst third place was occupied by Capt. W. Barnato (4,398 c.c. Bentley), then came W. B. Scott (2,996 Bentley), followed by Marendaz, Hallam, Newsome and Vernon Balls in that order.

The Alvis driven by F. Hallam had the appearance of being an absolutely standard four-seater, complete even to a hood cover. It ran exceedingly well at an average speed of 55.10 m.p.h., Hallam all the while refusing to indulge in any kind of spectacular driving.

T. E. Rose-Richards (Bugatti) experienced both tyre and ignition trouble, with the result that he retired about half an hour before the end of the race. Steady driving enabled D. M. K. Marendaz (Marendaz) to maintain a good average speed, but during almost the entire distance of the race his mechanic was holding the near side rear mudguard in position.

Excitement became high when Dingle completed his 40th lap still ahead of Campbell and with the big

Bentley unable to close up. Lap by lap for the last six this order was maintained, and Dingle crossed the finishing line winner of the race.

His time was 2 hrs. 52 mins. 2 secs., his average speed being 52.11 m.p.h. The other finishers, in order, were:—Capt. Campbell, 2 hrs. 54 mins. 58 secs. (72.69 m.p.h.); Capt. W. Barnato, 3 hrs. 1 min. 59 secs. (74.28 m.p.h.); D. M. K. Marendaz, 3 hrs. 24 mins. 26 secs. (56.97 m.p.h.); F. Hallam, 3 hrs. 29 mins. 55 secs. (55.10 m.p.h.); S. H. Newsome, 3 hrs. 34 mins. 21 secs. (53.54 m.p.h.). The official results will be announced later.

York Speed Trials.

BRILLIANT weather and a good attendance combined to make the speed trials held last Saturday by the York and District Motor Club a great success. The local hospital funds, in aid of which the trials are held each year on the Knavesmire, York, benefited by a handsome sum.

The City of York Corporation lent the concrete road, one-third of a mile in length, to the York and D. M.C., and this year most excellent arrangements had been made by the Club's officials for the comfort and safety of spectators and competitors.

RESULTS.

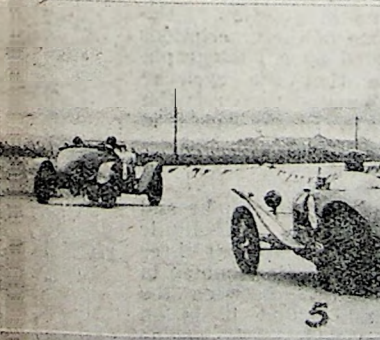
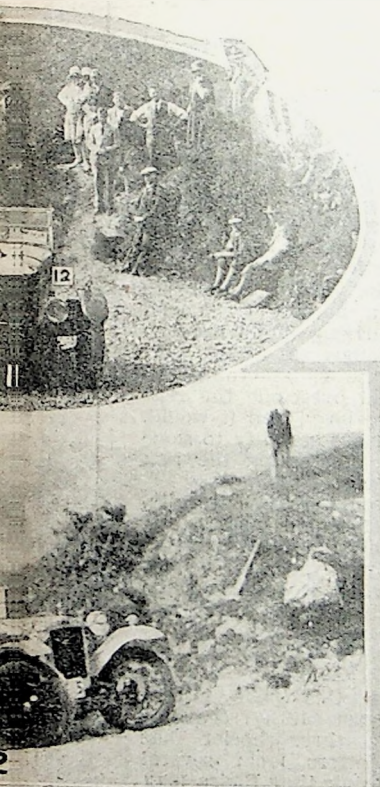
Cars up to 1,100 c.c.—A: 1. P. Saltmarsh (8.9 h.p. Amilcar), 31.2-5 secs.; 2. Miss V. Worsley (9.5 h.p. Salmson), 31.3-5 secs. B: 1. J. Hepworth (7 h.p. Jowett Special), 27.1-5 secs.; 2. P. Saltmarsh (8.9 h.p. Amilcar), 30.1-5 secs.; 3. Miss V. Worsley (9.5 h.p. Salmson), 30.4-5 secs.

Cars up to 1,500 c.c.—A: 1. E. J. Moor (11.9 h.p. Frazer-Nash), 25.3-5 secs.; 2. G. H. Meysey-Thompson (11.9 h.p. Hodgson), 25.2-5 secs.; 3. D. Walker (11.9 h.p. Hodgson), 25.3-5 secs. B: 1. G. H. Meysey-Thompson (11.9 h.p. Hodgson), 25.2-5 secs.; 2. D. Walker (11.9 h.p. Hodgson), 25.3-5 secs.; 3. H. R. Leatham (11.9 h.p. Bugatti), 25.4-5 secs.

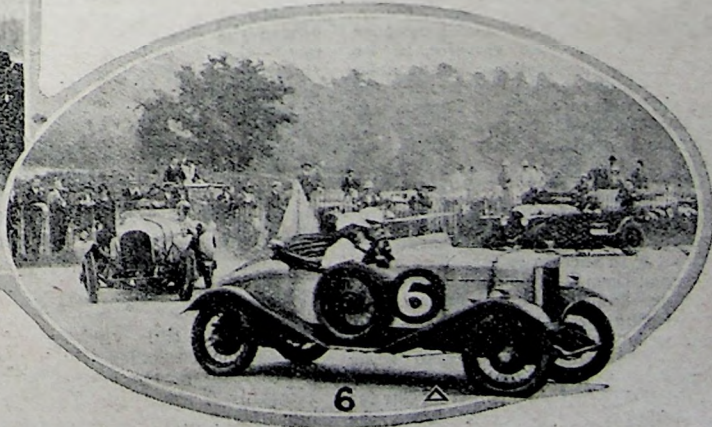
Cars, unlimited.—A: 1. E. J. Moor (11.9 h.p. Frazer-Nash), 25 secs.; 2. Martin B. Lax (30.98 h.p. Vauxhall), 25.1-5 secs.; 3. H. R. Leatham (11.9 h.p. Bugatti), 25.2-5 secs. B: 1. E. J. Moor (11.9 h.p. Frazer-Nash), 25.2-5 secs.; 2 and 3. D. Walker (11.9 h.p. Hodgson) and H. R. Leatham (11.9 h.p. Bugatti), 25.3-5 secs.

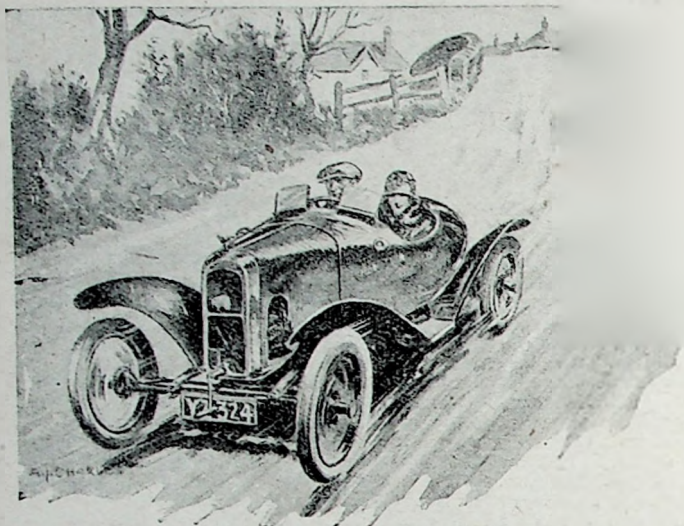
The Grand Prix of Europe.

DRIVING a Delage, and representing France, Benoist won the Grand Prix of Europe at Monza, Italy, on Sunday last, with a comfortable margin in hand. His time was 3 hrs. 26 mins. 59 secs., giving an average speed of just over 90 m.p.h. Second place was gained by Morandi (O.M.), who drove for Italy, his time being 3 hrs. 49 mins. 32 secs. Kreis, the redoubtable driver of an American Miller, was third in 4 hrs. 2 mins. Misfortune overtook Cerio (Bugatti), who overturned and was injured.



the summit of Beggars' Roost. (2) D. Duncan Smith (Frazer-Nash) "150." (3) A scene at the start of the Surbiton photographed whilst he was travelling at about 70 m.p.h. in his (Bugatti) and the Stutz round the fork hair-pin, which (Lea-Francis) and Birkin (Bentley) at the tub hair-pin.





CYCLECAR COMMENTS.

By SHACKLEPIN.

CYCLECARS OF THE FUTURE
—OPINIONS OF A PIONEER—
WHY NOT A FOUR-WHEELED
MORGAN?—NEWS OF MANY
"MYSTERY" CARS.

A VERY interesting letter has been sent to me by Mr. William A. Weaver, who was one of the pioneers of the cyclecar industry and is still actively engaged in the production of three-wheelers. Mr. Weaver is a vice-president of the Cyclecar Club and I feel sure that all enthusiasts will endorse the remarks which he makes. His letter reads as follows:—

Dear Sir,—With the formation of a club specially devoted to the interests of cyclecar owners as an accomplished fact, we have reached another and most important milestone on the road of progress.

Previous efforts in this direction failed to develop the cyclecar, because it was not realized that this elusive vehicle is an entirely different machine from an orthodox light car and the sporting club side of the movement quickly drifted away from true cyclecars. Many attempts at cyclecar building have been made of late years; some have been good, some bad from every aspect, and others, like the curate's egg, good in parts, but so far only one, the Morgan, has survived the acid test of time.

That the successful cyclecars of today are three-wheelers must not be taken as definitely limiting the field to this type. What it does mean, apparently, is that to be successful a cyclecar must be cheaper, and simpler in its details, than any light car, but it must have an equally good performance. On the Continent, especially in France, this has been realized, and several attempts at cyclecar building have lately been made.

Unfortunately they have not met with approval when viewed by the practical eyes of British motorists, and their introduction to the English market has not met with success so far. The public look upon them, and no doubt rightly so, as too experimental; but these machines are pointing the way, nevertheless.

What is wanted now is the enthusiasm and invention necessary to bring forth a new machine, on a new basis, to be a forerunner of the ultimate "Car for the million"—the cyclecar. True, the

ever popular three-wheeler touches the fringe of the market, and that "Baby" of Sir Herbert Austin's gets a share of it, but the Austin Seven is not a cyclecar and never was intended to be. It is a perfect little car on orthodox car lines, so far as fundamentals go, and its production cost, due to that fact alone, will always keep it out of the cyclecar market, which we may hope will eventually be almost as much under £100 as the Austin Seven and similar cars are over it.

Let the Cyclecar Club foster the simple machines and organize trials, in which amateur builders will not be handicapped off the course, and something may be forthcoming, if the conditions are favourable, which will show us the way to progress in the new and almost unexplored domain of the "real cyclecar."

Even the implied definition of the word "cyclecar" is little understood or realized by many, and the rules and regulations most likely to govern, and develop it along true lines, still less. As one who has studied the subject for a number of years, I feel bound to say that cubic capacity limitation will never do it. It is insufficient of itself to bring forth the real cyclecar.

Possibly in conjunction with a weight limit, and by taking account of speed, something might be done. It is therefore most necessary that the new club should realize, when framing its rules, to govern the sporting side of the movement—that it really is cyclecars and not light cars which it has been formed to foster and develop.

I need only add, I think, that the Cyclecar Club fully realizes its obligations towards the type of vehicle that it has been formed to foster. The only request the club has to make is that it shall receive reasonable support.

Amongst the variety of proprietary accessories which are, and have been, marketed especially for Morgans, I am surprised that there has never been an attachment of

some kind to make a Morgan into a four-wheeler.

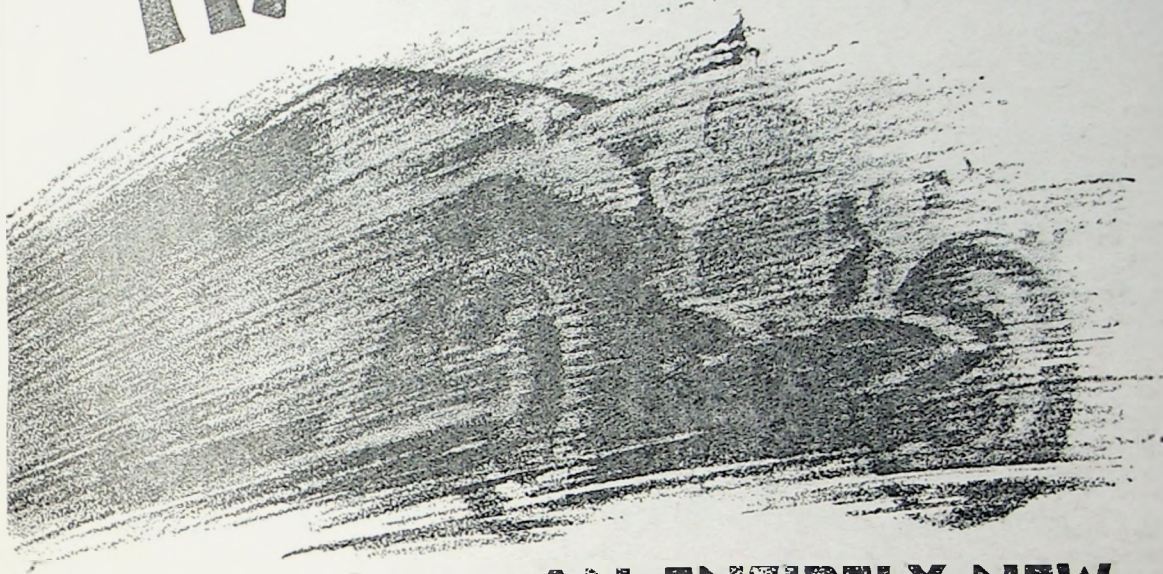
One would imagine that with the exercise of some ingenuity it would be possible to evolve a workmanlike rear portion comprising two interchangeable, easily detachable wheels with a narrow track and with the two driving chains between them. An arrangement of this kind would allow the chains to be encased, it would overcome the rear wheel puncture boggy, and it would, of course, improve stability to some extent, whilst eliminating the risk of skidding.

The need would arise, naturally, for some considerable modification of the springing and rear forks, as these are designed for a three-point suspended car, and would not be satisfactory if there were two wheels at the rear.

My note on this page in the issue of August 19th regarding a "mystery" three-wheeler has brought me letters from several readers who think that theirs may be the machine in question. Unfortunately, none of the descriptions was accompanied by a photograph, but I believe that the cyclecar owned by a Charlton reader is the one which I saw. In any case it is an interesting machine.

The chassis frame is tubular and of triangular shape, half-elliptic springing being used for all three wheels. The radiator is mounted in the normal position between the dumb-irons, and behind it is an 8 h.p. water-cooled J.A.P. engine driving through a leather cone clutch to a Chater-Lea three-speed and reverse gearbox: final drive is by a single short chain. Internal-expanding brakes are fitted to all wheels, those in front being operated by hand.

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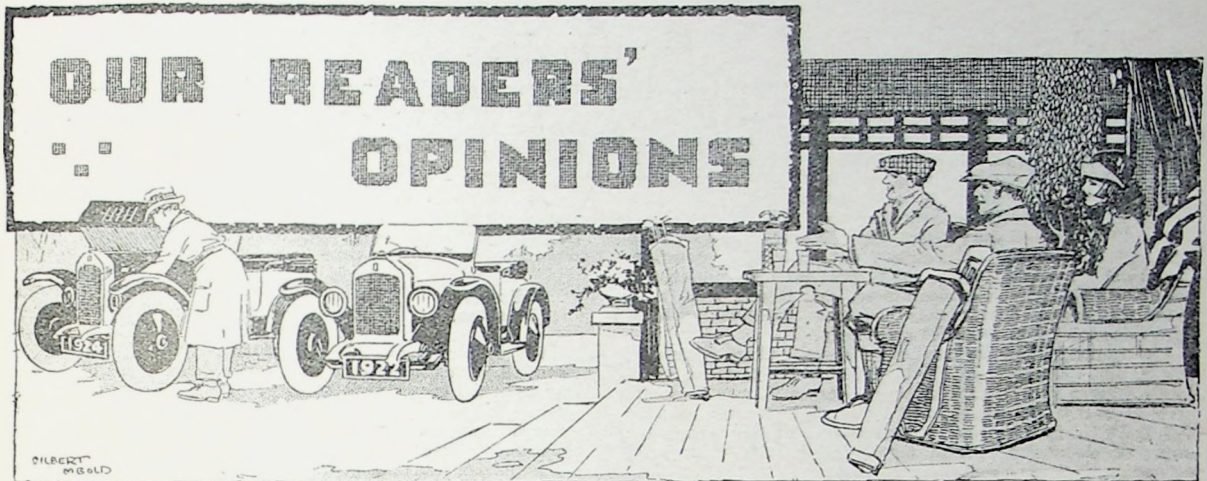
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We welcome letters for publication in these columns, but take no responsibility for the opinions expressed. No anonymous communications will be accepted, but writers may use a nom de plume. To ensure publication in the next issue letters should be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

REVIVE THE "LONDON-MANCHESTER"! Amateurs Welcome the Idea—Details Discussed.

Make "Golds" Worth While.

As an amateur who has not, as yet, competed in any reliability trial, I was very interested to hear of the possibility of the Junior Car Club reviving its London-Manchester run. I have often wished to take part in a fairly big trial, but the question of expense and the fear of damaging my car have so far deterred me. It seems, however, that a London-Manchester trial of the type mentioned would be just the type of event to suit me and, I think, many other light car owners.

Fine Time Limits.

There is one suggestion I have to make and that is, that the trial should be run to a fairly fine schedule, so that, although nothing freakish in the way of hills or roads would be included, the close time limits would prevent an unduly large awards list and make the winning of a "gold" something worth while. I suggest that one minute early or late should be allowed, marks being deducted for every minute outside this margin. There would thus be no need for using a stop-watch, which most amateurs do not possess, but time-keeping could be sufficiently difficult to add zest to the run.

K.N.S.

Ideal for "Lazy" Amateurs.

As one who cherishes two "golds" gained in "London-Manchesters"—not because they were difficult to get, but because of the real good time the sight of them recalls—I was delighted to observe that there is the possibility of this J.C.C. trial being revived. It represented a competition calculated to make a strong appeal to lazy amateurs like myself: first, because the conditions imposed were far more arduous; secondly, because freak hills—with the chance of breaking something—were taboo; and thirdly, because the happy congregation of competitors, friends and officials at the Midland Hotel, followed on the next day by the pleasant run back to town through Buxton, completed an altogether enjoyable week-end.

By One of Them.

Is the club afraid that sufficient support would not be forthcoming? In the words of the Editor of *The Light Car and Cyclecar* "times have changed since the last 'London-Manchester' was held." I did not compete because, like many others, I felt that the trial was losing its go-as-you-please flavour and, moreover, there was "the trade" with which to contend. Give me a chance in 1928, however, and I shall be there; furthermore, I can promise at least one other entry—provided the event is run off on the lines which characterized the second run of the series. OLD TIMER.

A Trial for Novices.

At the forthcoming Olympia Show I shall be ordering my first new light car—having served a year's apprenticeship with a second-hand vehicle. It is my ambition to go in for competition work, but most of the trials held nowadays seem to be rather too severe for a novice, and certainly the routes chosen must impose a severe strain upon the cars. I am aware that modern light cars will stand up to almost anything, but it would give me no pleasure to drive over boulders and up freak hills.

What I am wanting—and there must be many like me—is a trial which will not impose any undue strain upon man or machine; that is, a trial in which there will be good fun and experience to be had. I gather from your recent remarks that the "London-Manchester" would be exactly the event I have in mind, and should it be revived I shall certainly enter.

KEEN NOVICE.

A Dual-purpose Event.

I have no doubt that many readers other than myself have read with interest the suggestion put forward in last week's "On the Tapis" that the J.C.C. London-Manchester run should be revived. The various criticisms which were put forward following the last Manchester trial certainly would not apply to-day, and as the owner of a small four-cylinder sports tourer, I can think of no better trial course or objective for a "go-as-you-please" event than "London-Manchester."

Very many light-car owners will agree that quiet and uneventful touring runs do not represent the be-all and end-all of motoring enjoyment. If only we could have a social event, presenting a certain amount of difficulty—but not run over a chassis-breaking course—needing at least a little skill and with a "pot" or a "gold" in view, the entry list would be quickly filled.

There would doubtless be a very mixed entry, from the family man who had possibly never before even viewed a trial from the roadside, to the man to whom Porlock and Lynmouth are old friends; but I have confidence in the J.C.C., and feel that the officials would succeed in conveying to the veriest novice the fact that "this event is not a race," and would arrange matters so that the expert in the super-tuned sports car would not have undue advantage over the first-timer in his standard tourer.

Anyhow, here is one would-be "London-Manchester" entrant—and I hope it keeps fine! JANE AUSTEN SPORTS.

OUR READERS' OPINIONS (contd.).

The Warming-up Problem.

Why Not Electrical Heating?

It would be quite easy to arrange for the automatic maintenance of the circulating water at 60 degrees F., as suggested by "Spark" in your issue of September 2nd, if (and it is a big "if") there were available a sufficient supply of electrical energy; but to impose this duty on the already overworked battery of a car is quite out of the question. Electrical heating for any purpose is delightful for its convenience and cleanliness, and it can readily be made automatic, but it only becomes practical politics where electricity is plentiful and cheap.

My radiator and jackets carry three gallons of water, say 30 lbs. Suppose on a cold night its temperature drops to 40 degrees F. To raise it to 60 degrees F. would require $30 \times 20 = 600$ British thermal units of heat. To produce 600 B.Th.U. by electrical means would require 175 watt-hours of electricity. From my 12-volt battery this would account for 15 ampere-hours.

In this calculation we have neglected the heat necessary to maintain the metal parts at the higher temperature, and after the restoration of the 60 degrees F. it would be necessary for the battery to supply energy for the heat required to make up for the radiation which would still continue.

My battery has a capacity of 80 ampere-hours, which is, I think, as large as most light cars carry for a 12-volt system, and I am quite sure that in moderately cold weather this battery, starting completely charged, would be completely exhausted within 24 hours if it were called upon to perform this duty alone. It must be remembered, too, that this type of duty would be heaviest in winter, when lighting and starting make such big demands upon the battery.

Even if "Spark's" suggestion were possible of fulfilment it still leaves the warming-up problem unsolved, for in that we are looking for means of heating the water up to 180 degrees F. or thereabouts with as little delay as possible after the engine has started. The engine itself will supply all the heat necessary; our business is to prevent its dissipation until the required temperature is reached.

Will you allow me to give a word of warning to "J.H.B." who writes in the same issue, to state the good effects he observes by running the engine for the first mile or so with the strangler partly closed? If his engine really needs this

treatment there is surely something wrong with his carburettor setting: if it does not, he is running the risk of diluting his lubricating oil with unused petrol. The latter is, I think, the more likely. A.H.S.

Automatic Control of Cooling Water.

A point of vital importance which all correspondents on the subject of rapid warming up of the engine seem to have missed is that all the time an engine is warming up, heat, which is required in the jackets, is being lost from the radiator. This heat is bought by the owner in the form of petrol which is absolutely wasted.

"Focus" Replies.

So few motorists realize the significance of wasted heat; it costs all of us pounds during a season's running. One way to grasp my point is to carry out this little experiment. Drain the radiator into a bucket and stand the bucket on a petrol stove in the open. Then see how much petrol is consumed before the water reaches, say, 180 degrees F.—the normal working temperature of an engine. An even greater quantity of petrol is dissipated in heating water in an engine and radiator, because, whilst the petrol is trying to heat the water, the most efficient practical means known to man are trying to cool it!

It was largely for this reason that I recently advocated restricted circulation systems which would, of course, convey in addition other important advantages.

I notice "Spark" advocates an electrical heater for the cooling water. An enormous battery would be needed, and "Spark" would have to spend a great deal of money on keeping it charged. Even if it were charged from the dynamo (a giant would be needed in the winter), the lost heat would still have to be paid for in petrol, whilst the charge rate would need to be excessive and the battery life consequently short. Alternatively, a high voltage system would be required, but I cannot believe that this or any other application of the idea would prove successful.

No correspondent has yet succeeded in convincing me that automatic restriction of the flow of the cooling water is not highly desirable, nor can I believe that, if a machine can be devised which will hand out ignition sparks indefinitely and at equally spaced intervals at the rate of 4,000 a minute, it is beyond the ability of inventors to devise a simple thermostatic valve which works and goes on working. Focus.

The £.s.d. of Scottish Touring.

The charges stated by "Focus" in his article on Scottish touring are just about the usual that one who tours may expect in Highland hotels, and these scandalously excessive charges have greatly been brought about by two classes of English, viz., tourist "sleepers" and would-be sportsmen. Permit me as one who lived many

Interesting Comments.

years in the Highlands and has driven over almost every yard of Highland roads to supply a little information on Highland hotels. The "sleeper" who rushes along at 200 miles per day is asking for it and usually gets it—financially. Highland hotel keepers just look on them as easy game and have really no use for them, but if there may be a vacant bedroom they make them pay. I have seen scores of parties blinding along from hotel to hotel, late in the evening, trying to get accommodation and finally passing a miserable night, tortured and tormented by midges, attempting to sleep in their cars; and the Highland midge can make life out of doors absolutely unbearable.

The second class are perhaps the greatest holiday "suckers" one can find. I refer to the sporting parties, which annually invade hotels and take their shooting and fishing, thus converting the hotels to pseudo shooting lodges. I should imagine each grouse costs them about two guineas

and each trout half a guinea, but, of course, the weather can always be blamed for lack of sport. Loach and river fishing in the later summer months is generally in the Highlands a wearisome vexation of spirit and flesh, but apparently a large number of English sportsmen have not learned the fact.

Perhaps your readers will now see how charges are piled on. The one party will pay anything to get indoors away from the midges; the other swanks about his shooting and seems to have more money than sense—at least, all the village loafers who act as ghillies look on them in this light. Let me offer a hint to sporting parties: before taking a Highland hotel's shooting and fishing, insist on the names of former tenants, and get their account of each day's bag and the number of fish netted.

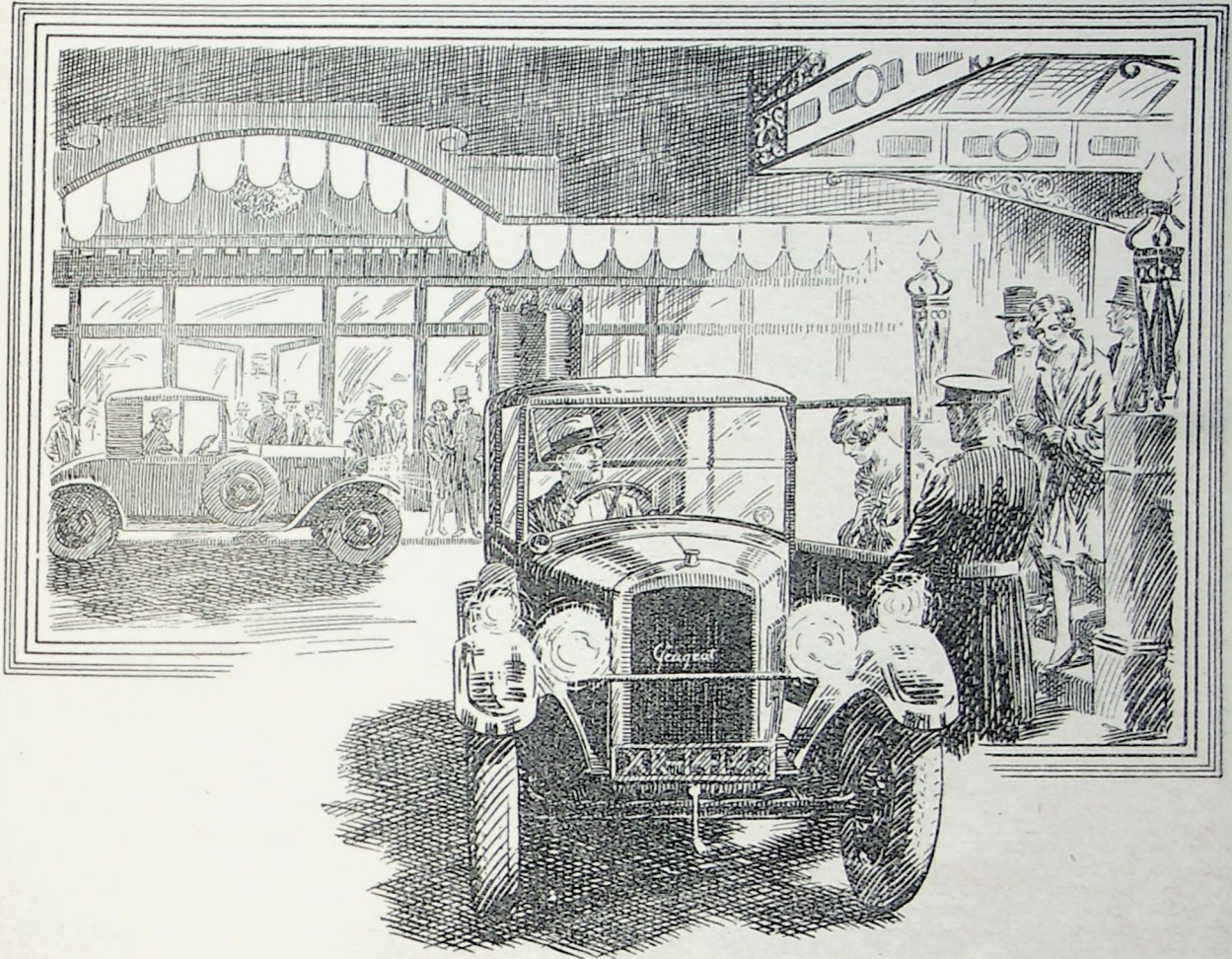
Lastly, let me advise readers how to spend a Highland holiday profitably and enjoyably. Book early a week at each suitable centre. Write the secretary of the local holiday bureau for lists of boarding houses and hotels and you will get accommodation from £3 10s. weekly. Tour or combine a run and a mountain climb each day and the hotel will furnish you with lunch and tea to take with you; in the evening you can return to dinner with no worry about the night's accommodation. HAMISH LEO.



B38

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OUR READERS' OPINIONS (contd.).

The Rover Eight.

As the owner of one of the very early models of this excellent little car, which is within two or three months of its seventh birthday, and has covered more than 45,000 miles in the hands of the present (and original) owner, may I suggest to your correspondent Mr. S. G. Hubbard that a complete and satisfactory substitute for his suggested water cooling may be provided by fitting aluminium pistons? I quite appreciate your correspondent's feelings after "pushing" the car under unfavourable circumstances for a long stretch and then tackling a steep rise, as I had the same feeling myself in the cast-iron piston days, but after some 17,000 miles I substituted a pair of Specialoid pistons (having the cylinders trued up at the same time), and that feeling has been a thing of the past since then. For example, with cast-iron pistons I could not get any real satisfaction from driving up River Hill; this is most deceptive at the best of times, and the pull from Tonbridge to the bottom of the hill calls for more throttle than one appreciates. In any case, I had to change down to second almost before the gradient was really perceptible, and to first at or before the first corner, and proceed up on that gear, to my intense irritation. I should state that my car has the original—and to my mind superior—gear ratios of 14.9 to 1 and 7.9 to 1 on first and second with 28-in. wheels, as compared with 16.5 to 1 and 8.5 to 1 ratios and 26-in. wheels on the later models. Specialoid pistons, however, carry me up the hill on second under any but the worst conditions, and make no fuss about it either. In effect, the performance of the car is just as good after a 50-mile hard run as it was at the end of the first mile or so from cold with cast-iron pistons. When the pistons were

first fitted very careful driving was needed for the first 500 miles, but now that they are properly settled in there is nothing in performance that compares unfavourably with a water-cooled engine, and I personally would not accept the alteration to water cooling if it were offered to me gratis.

HAROLD F. A. KINDER.

CONDENSED CORRESPONDENCE.

With reference to the correspondence upon the subject of reviving the Rover Eight several readers have written to point out that those who wish for a car of this type will find that a Jowett will meet their needs in every way.

Mr. H. Stout (London, S.E.) writes in praise of the Singer Junior. He owns one of these cars, and states that it is capable of 50 m.p.h. and that its petrol consumption is 50 m.p.g., whilst he is also warm in his praise of the London service depot of the makers.

INFORMATION WANTED.

MORGAN.—The opportunity to buy or borrow an instruction book for the 1927 model would be much appreciated.—Claude Campion, 274, St. Alban's Road, Watford, Herts.

SINGER.—The chance to buy or borrow an instruction book for the 1925 10 h.p. saloon model would be appreciated.—C. Molenkamp, 25, Oaklands Road, Bromley, Kent.

SWIFT.—Any reader who has an instruction book for the 1921 model which he is willing to lend or sell is asked to get in touch with S. A. Gorsuch, 131, High Street, Scunthorpe.

JOWETT.—Any reader who has fitted a dickey seat hood (either of proprietary make or of his own construction) to a long two-seater Jowett is asked to give details to H. C. Munnings, Kelmar, Victoria Road, Mill Hill, N.W.7.

CLUB ITEMS AND SPORTING EVENTS.

Boulogne Entries.

THE following are the entries for the Grand Prix du Boulogne (Saturday, September 10th) and the Coupe Boillot (Sunday, September 11th):—

GRAND PRIX DE BOULOGNE. (Eight British.)

- 1,100 c.c. Cars.
31 Salmson I (Casse).
32 Salmson II (Goutte).
33 Salmson III (D. Marnier).
34 Salmson IV (Newman).
35 Amilcar I (Morel).
36 Amilcar II (Marlin).
37 Amilcar III (Duray).
38 G.A.R. (Ed. Cooper).
39 Vernon Spéciale (J. C. Douglas).
40 B.N.C. (Gaupillat).
1,500 c.c. Cars.
41 Vernandi (Nandillon).
42 Frazer-Nash (A. Frazer Nash).
43 Bugatti (G. E. T. Eyston).
44 Bugatti (B. Eyston).

COUPE BOILLOT. (Eight British.)

- 750 c.c. to 1,100 c.c.—10 Laps.
1 Donnot I (Lepicard).
2 Donnot II (R. Maric).
3 Salmson I (Casse).
4 Salmson II (Goutte).
5 Aries I (X.).
6 Aries II (X.).
7 B.N.C. I (X.).
8 B.N.C. II (Fourny).
9 Lombard (Bassand).
10 E.H.P. I (Bauriat).
11 E.H.P. II (Bussienne).
12 Tracta (Grégoire).
1,100 c.c. to 1,500 c.c.—10 Laps.
14 Corre La Licorne (M. Doré).

- 15 Bugatti I (Sabipa).
16 Frazer-Nash (A. Frazer Nash).
17 Lea-Francis I (Kaye Dou).
18 Lea-Francis II (R. M. V. Sutton).
20 Alvis (C. M. Harvey).
21 Alvis (W. U. Dykes).

- 1,500 c.c. to 2 litres—11 Laps.
22 Georges Irat (Zehnder).
23 Bugatti (Chiron).
24 Bugatti (Malcolm Campbell).

- 2 litres to 3 litres—11 Laps.
25 Austro-Daimler (Turner).
26 Bentley (L. G. Callingham).
27 Aries III (X.).

- 3 litres to 5 litres—12 Laps.
28 Aries IV (X.).
29 Lorraine-Dietrich (Brisson).

- 5 litres to 8 litres—12 Laps.
30 Mercedes (Baron von Wentzel-Mesau).
* Indicates British entries.

WOKING AND D. M.C. and C.C.

The following are the amendments made in the original awards list of the Seven Counties Trial:—Silver cups: G. G. Stone, A. W. Colton, E. H. Simmonds, E. W. B. Aisbitt, D. F. Chadley, C. W. Ramstedt, F. A. Beggis and R. D. Wilson. Silver medal or spoon: L. Milne. Bronze medals: E. Freleigh, G. R. Writer, L. Ellis and G. Pollard.

R.A.C. PERMITS.

The R.A.C. has issued the following closed permits:—September 11th, Northampton M.C.C. reliability trial; September 17th, Southport M.C.C. beach race meeting; September 24th, West of England M.C.C. reliability trial; September 24th and 25th, Woking and D. M.C. and C.C. reliability trial; October 1st, Stalybridge and D. M.C.C. speed trials.

BRISTOL M.C. and L.C.C.

The annual 12-hour trial from Bristol to Lymouth and back took place recently, and was favoured by excellent weather. This year the event was open to all clubs in the Wessex Centre (A.C.U.), and a large entry resulted. Touring and sports classes were catered for, and the latter had to follow a route via Porlock village and Dovernay Hill to Lymouth, thence via Lymouth Hill and Beggars' Roost back to Lymouth. The tourers were allowed to proceed from Porlock village by any route they desired, and finish the outgoing journey on arrival at Lymouth. A stop and restart test was held for the sporting class on the bend on Lymouth, but the majority of the drivers failed. H. Clegg (Austin Seven) gained a first-class award.

FORTHCOMING EVENTS.

Saturday, September 10th.

Light Car Grand Prix at Boulogne.
Kent and Sussex L.C.C. Reliability Trial.
Yorkshire Centre (A.C.U.). Scott Trial.
North London M.C. Supper Run.
North Liverpool M.C.C. Wallacey Speed Championship.

Sunday, September 11th.

Georges Boillot Cup Race at Boulogne.
Leeds M.C. Post Hill-climb.
Brighton and Hove M.C. Whole-day Trial.
Huddersfield and D. M.S.C. Reliability Trial.
Leicester and D. M.C. Cricket Match.
Northampton M.C.C. Reliability Trial.

Friday, September 16th.

Wessex Centre (A.C.U.). 24-hour Trial.

Saturday, September 17th.

B.A.R.C. Open Meeting.
Southport M.C. Open Championship Race Meeting.
Redditch M.C. and C.C. Freak Hill-climb.

Sunday, September 18th.

Leeds M.C. Wilson Trophy Contest.
Leicester and D. M.C. Run to Wingfield Manor.
North London M.C. Picnic Run.

BELSIZE-BRADSHAW L.C.C.

The next meeting of the Belsize-Bradshaw Light Car Club will take place on September 11th, and will be a run to Friday Street (Leith Hill), members meeting at Oxshott Common (Essex end) at 2.45 p.m.

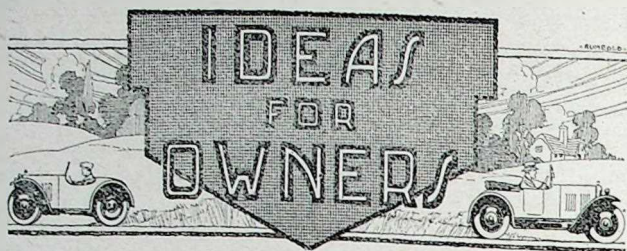
SOUTHERN JOWETT L.C.C.

The fourth annual reliability trial, open only to members of the club, will be held on September 25th. The first car will leave the King's Head Hotel, Mitcham, at 11.1 a.m. Entrants are to report not later than 10.30. Members of the club who are not competing can join for lunch at Ockley about 1 p.m., and for tea on Rammore Common at 4 p.m. All Jowett owners are eligible for membership of the club and may obtain particulars from the hon. sec., Mr. F. A. Dudley-Ward, 186, Tarnworth Lane, Mitcham.

HUDDERSFIELD AND D. M.S.C.

The reliability trial which was postponed on August 28th will be run on September 11th. The route will be from Huddersfield through Bradford, Harrogate, Pateley Bridge, Burnham, Bolton Bridge, Ilkley and Bradford, and the start will be from St. George's Square at 10 a.m.

The sixth 1927 freak hill-climb will be held at Dalton Bank on Saturday, October 8th, at 2.30 p.m. The event will also be open to members of the Bradford and District, Halifax, Calder Valley, Leeds and Harrogate Clubs. There will be two classes for cars (any capacity), and the entry fee (3s. 6d.) must reach Mr. H. Canby, 345, Bradford Road, Huddersfield, not later than Wednesday, October 5th.



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.

Stop-Signal Button Position.

One of the reasons why motorists cannot always convey to drivers of following cars an intelligent idea of intended movements is that an elaborate signalling device is needed to give the same indications as by hand, and hand signals alone are sometimes apt to be overlooked.

A means of remedying the trouble is as follows. Fit a red warning, or "stop" light in a prominent position at the rear of the car, on the number plate, or on the off-side rear wing, for example, and connect it to a horn-button type of switch, placed as shown in the sketch.

A signal button placed as shown is automatically operated when a driver extends his arm for signalling.

When the driver extends his right hand, for the purpose of signalling, the weight of his arm depresses the switch and lights up the warning device at the rear. The attention of drivers of following cars is attracted by the warning light, and they obtain an accurate idea of intended movements of the driver ahead by the road signals given.

A Decarbonizing Hint.

When a cylinder head is removed to allow the interior of an engine to be decarbonized, it is important to see that the carbon removed by the scraper does not fall into the cylinders, water jackets, stud holes and so forth.

It is a good plan to plug the various orifices with rag before the cylinder head and the top of the block are scraped, for in this way time will be saved which would otherwise be spent in clearing the loose carbon from the narrow passages. The rag will also prevent the decarbonizing tool from being accidentally brought against the polished surface of the interior of the cylinders.

E42

A Safety Device.

Drivers who fear that passengers' clothing may become entangled with central controls, may care to fit a safety shield on the near side of the gear and brake levers. The shield may be of plywood, fixed at right-angles to the floor with L brackets, and suitably covered with fabric or floorcloth to match the interior of the car. To be efficient, the partition should be at least 12 ins. high, when it will positively prevent passengers' clothing from fouling the controls.

Touring Preparations.

When getting a car in readiness for a lengthy run, it is most important to see that all accessories, such as spare wheels, petrol tins, luggage carriers, and so forth, are firmly fixed. The possibility of, say, a reserve petrol container coming adrift and causing an accident when a car is travelling fast, is by no means remote. A following car is almost certain to swerve to avoid the obstruction, and the right conditions for an accident immediately obtain.

Hood covers, in particular, are apt to

fall off, and, apart from the fact that the loss of the cover is annoying, a very real danger is present when this article is not firmly secured, and becomes detached on the road. It is a bad practice to strap luggage on to the top of a saloon, although many cars are seen on the road carrying bags and baggage in this precarious position. If lack of space makes it necessary for luggage to be carried on the roof, every care should be taken to see that the articles are firmly strapped down, and that they present no danger to other road users.

A Spotlight Hint.

During the summer season, a spotlight is put to very little use, the amount of driving done in the dark being small, and driving in fog almost nil. It is, however, advisable to keep the spotlight permanently in circuit, so that it can be brought into use if trouble occurs in the main lighting system.

The spotlight leads should be taken direct to the battery, and not through any part of the main wiring, for by connecting in this way the spotlight will not be put out of action by any disconnection of the main circuit. If the lamp has a self-contained switch, it may be advisable to connect an additional switch in circuit, leaving the lamp switch itself in the "on" position. The additional switch should be of the tumbler type, mounted in a convenient position on the fascia-board, so that in the event of the headlamps going out suddenly at speed, the driver may simply lean forward, switch on the spotlight, and restore efficient road illumination until the car is stopped and the cause of the trouble ascertained.

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.

G.T. (London, W.4).—No, you would be ill advised to remove metal from the heads of the valves. Special valves of the tulip type may be obtained for speed work.

W.S. (Southport).—You will gain nothing by filling your gearbox above the level of the layshaft. Overfilling will tend to increase the loss from the worn main bearings of which you complain.

H.P. (Ayr).—Turning the wheels from side to side, with the axle jacked up, during the process of greasing the stub axle helps the lubricant to reach the right quarters and is to be recommended.

C.N. (Edgware).—Why not have the body cellulosed? The process has everything to recommend it, and the faults to which you refer are not now experienced with modern cellulosing methods.

P.M. (Chepstow).—Have you examined the adjustment of the clutch stop? The difficulty experienced in changing down may be due to the fact that the stop comes into operation before the clutch is properly disengaged.

S.M. (Hingham's Park).—Engines built prior to January 1st, 1913, are eligible for the 25 per cent. rebate of tax. The full amount should, however, be sent to the licensing authorities together with your claim for the rebate.

D.S. (Bromsgrove).—The steering box of your 1925 A.C. is lubricated by removing the nut in the centre of the steering wheel and pouring oil down the column. You should warm the oil before inserting it, so as to make it run more easily.

B.I.M. (Woodford).—Yes, it is quite likely that "fur" in the radiator and cooling system is the cause of the excessive boiling. Washing soda, as mentioned in your letter, will remove the major part of the deposit, but only a small quantity—about two tablespoons to the gallon of water—is required. The radiator should be drained and thoroughly scoured with clean water after running about 20 miles.



New "Lea-Fabric" 4-door Saloon on 12/40 h.p. Sports Chassis

The extreme lightness of this fabric saloon body enables the 12/40 h.p. sports chassis upon which it is constructed to give of its best in speed, acceleration and hill climbing, which, of course, the safety of the Lea-Francis four-wheel braking system permits.

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passengers enjoy a complete immunity from the weather, and rest in luxury equal to that of the heaviest type of saloon car. An additional advantage is the complete silence of this type of coachwork. No drumming, squeaks nor rattles even at high speeds. Let us demonstrate this fascinating model to YOU. Catalogues on request.

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" 1926, 7 h.p., Chummy Models	from £90
" 1925, 7 h.p., Chummy Models	from £80
CITROEN, 1926, 7 h.p., 3-seater	£75
" 1925, 11'4 h.p., English 2-seater Coupe	£95
" 1925, 11'4 h.p., English 4-seater, excellent condition	£75
CLYNO, 1927, 2-seater	£125
" 1925, 2-seater	£65
FIAT, 1925, 10/15 h.p., 4-seater Saloon	£165
" 1924, 10/15 h.p., English Body Coupe	£125
HANDS, 1924, 2-seater, excellent condition	£65
LEA-FRANCIS, 1924, 10 h.p., Chummy Model, excellent condition	£85
RENAULT, 1925, 9 h.p., 4-seater, excellent condition	£85
SINGER, 1927, 10/20 h.p., 4-seater, as new	£165
" 1923, 10 h.p., 4-seater	£65
STANDARD, 1926, 11'4 h.p., 4-seater	£125
" 1925, 11'4 h.p., 4-seater	£95
" 1924, 11'4 h.p., 2 and 4-seaters, from	£75
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B44

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

AROUND THE TRADE.

About one hundred workers of the Wilcot (Parent) Co., Ltd., took their annual outing on September 3rd at Minehead, Somerset, travelling by motor charrs-a-banes from Bristol.

The board of directors have declared an interim dividend on Brown Bros., Ltd., preference shares at the rate of 3½ per cent., also an interim dividend on the ordinary shares at the rate of 2½ per cent., both dividends to be paid on October 1st.

In the Morgan advertisement in our issue of September 2nd, the prices of last year's models were unfortunately published in error. As most of our readers are aware, this year's Morgan prices are as follow:—standard model, £89; family, £111; Aero, £127.

Cleaning material is always useful in a garage. Dunhills, Ltd., 359-361, Euston Road, London, N.W.1, are selling 50-yd. rolls of soft material which is excellent for polishing. The price of a roll is 7s. 6d., post free, but a cheaper quality can be had for 4s. 9d. for a 50-yd. roll.

We are informed that Mr. D. C. Lorkin, secretary of the Service Company, Ltd., for the past four years, has now been appointed director and general manager. Mr. G. W. Mann, who founded the company nearly 40 years ago, will continue to act as chairman and managing director.

An interesting and amusing addition to the many "house" magazines now published is "The Specialloid Gazette," issued by Specialloid, Ltd., Friern Park, London, N.12, the makers of Specialloid pistons. Readers may obtain free copies of the first issue from the Specialloid publicity department.

We have received from J. W. Brooke and Co., Ltd., Adrian Works, Lowestoft, an interesting folder describing the new 18-ft. runabout motor launch. It is claimed to be a boat into which the ordinary motorist can step and treat just as he would his road vehicle. The price is £330, and the approximate yearly expenditure, including 1,000 miles' use, is estimated at £25. The craft is on view at Olympia on stand 10, row D.S., until September 24th.

We are advised that the following have been appointed combined battery service agents for Lucas, C.A.V. and Rotax:—Frank Wall and Co., 25, Union Street, Oldham; the Wysside Welding and Battery Service Co., 51 and 52, Whitecross Street, Hereford; H. H. Timberlake, Ltd., Wigan; Atkinson and Griffin, the Westmorland Garages, Kendal; Attwood's Garage, Stafford; R. Westbrook and Co., 14, Cross Street, St. Leonards-on-Sea; Jas. E. Whalley, Ltd., Mitre Garage, Burnley; Mr. G. F. Surtees, Suffolk Hotel Garage, Lowestoft; the Rochdale Electric Co., Ltd., 13, Drake Street, Rochdale; the Avon Electrical Contracting Co., 15, Greenhill Street, Stratford-on-Avon.

The first sports meeting of the employees of Citroën Cars, Ltd., held on the Citroën sports ground, Vale Farm, Sudbury, on Saturday, was a great success, and there was keen competition between the Slough and Hammersmith branches for possession of the Swinton trophy, awarded for annual competition by Major-General Sir Ernest Swinton, K.B.E., C.B., D.S.O. Hammersmith were successful with a total of 76 points. The winners were much indebted for their success to the fine running of A. F. Mesley, who won the 100 yards, the 220 yards and the 440 yards, was second in the half-mile, and formed one of the winning team in the half-mile and mile relays. There were three individual events for ladies, and Miss R. Ling won them all.



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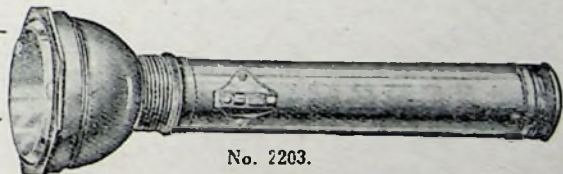
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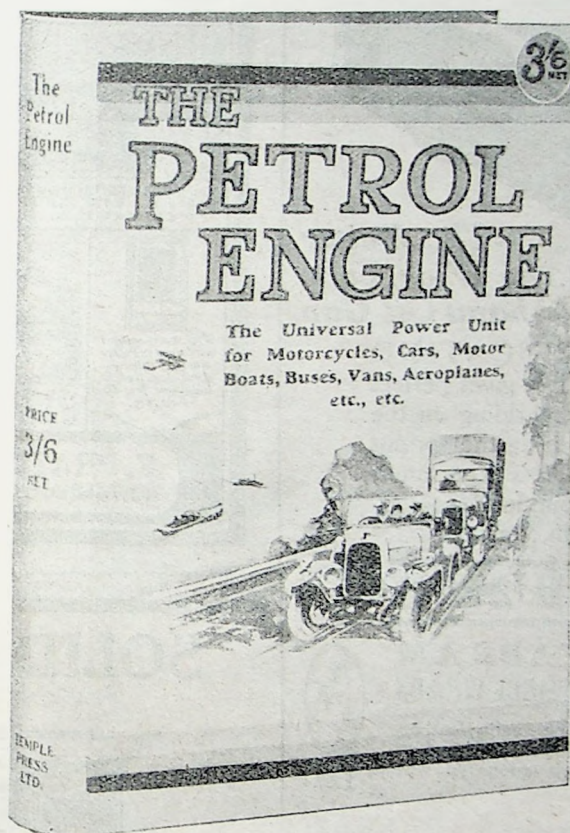
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EVERY modern application of the petrol engine—as applied to cars, motorcycles, motor boats, buses, vans, aeroplanes, etc.—is comprehensively dealt with, in simple yet practical language, in this fascinating handbook. A profusion of illustrations and drawings is included. Besides being remarkably interesting reading from cover to cover, "The Petrol Engine" forms a valuable work of reference. Every motorist should have a copy.

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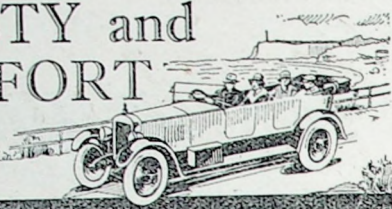
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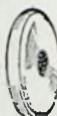
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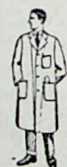
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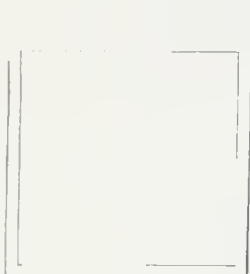
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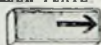
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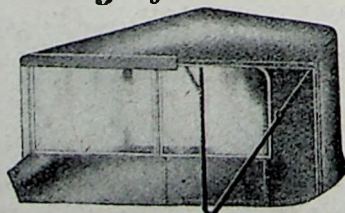
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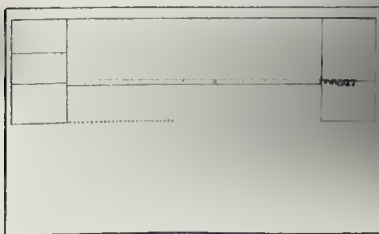
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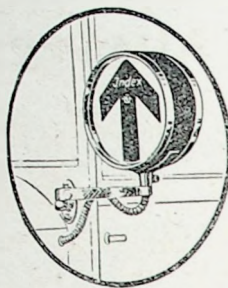
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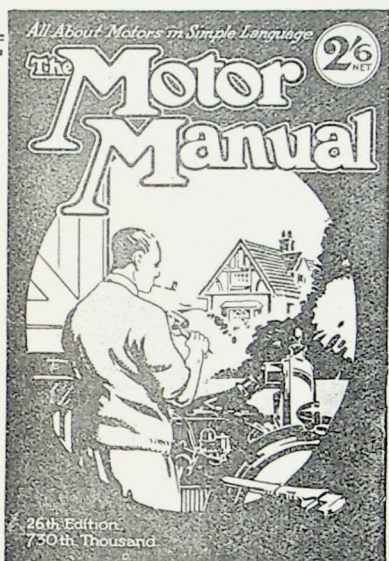
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