

& ASTE

1929

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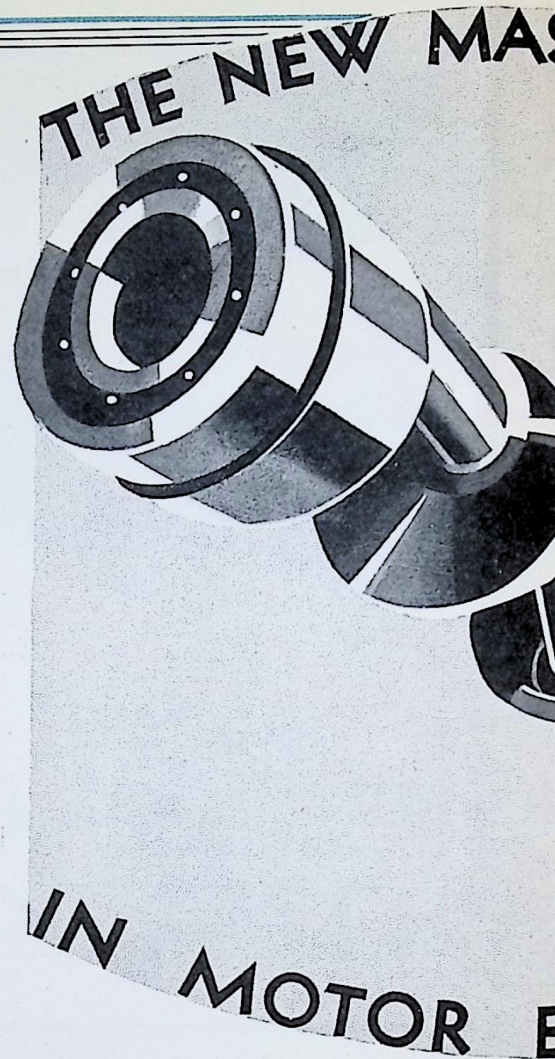


# ARROL-ASTER & ASTER

Cars for 1929

# Advantages of the Single Sleeve Valve

THE new principle behind the Arrol-Aster sleeve valve system is one of those wonderful ideas which everybody recognises as a great discovery, because once you see how it works it all looks so obvious and simple. It is a principle which is bound to have a profound effect on motor car engineering as soon as its advantages become more generally recognised. To explain it in its easiest terms, the Arrol-Aster sleeve valve mechanism performs a complete rotatory movement, whereas sleeve valve mechanism in earlier systems performed a double reciprocating movement which resulted in a considerable loss of useful power. The sleeves, which are of steel and are very light, describe a path which is almost a perfect circle. The obvious advantage of the Arrol-Aster system is a smooth rhythmic action instead of a series of jerks; further, the Arrol-Aster patented eccentric valveshaft dispenses with all other valve operating mechanism. The results obtained from this radically new sleeve valve system—based on what the Arrol-Aster engineers quite truthfully call a “master principle”—are little short of astounding. The full possibilities of the sleeve valve with its smoothness, silence and speed, are at last being given absolutely full play. One small instance provides most graphic illustration of the difference that this new principle has made. On the first models of this car a standard speedometer of well-known make was fitted, but the noise of that speedometer was heard so clearly above the purr of the engine that it has since been necessary to fit a different speedometer, the chief qualification of which is its quietness.



# The Astounding ARROL-ASTE

TER PRINCIPLE



ENGINEERING

## Noiseless driving fully achieved

**S**PEED has also been enormously increased, and it can safely be said that no other car of the same weight and horsepower, exclusive of specially tuned speed machines, will give the same constant high road speed, without the slightest forcing. Since an ordinary valv shaft with a straight up and down throw will move the sleeve only in a vertical direction, the Arrol-Aster engineers have designed a valv shaft in which each crank is set on the slant, and the slant of each is different. The end of the sleeve is fixed by an ingenious ball and socket joint to a connecting rod swivelling on this slanting bearing. The result is a valv shaft which is surely the most uncanny piece of mechanism ever put into a motor car, but which nevertheless is a simple solid shaft in perfect balance and carried in large bearings. But about the astonishing efficiency of this simple idea there can be no two opinions. As this shaft is rotated the connected rods are swung in a movement that is at the same time vertical and horizontal, with the result that the sleeve is carried up and round, and round and down, back to the point from which it started, in a perfectly continuous curve. There is no sudden change of direction. The problem of an unbroken movement has been solved, thus all the clatter of the valve gear is entirely eliminated. Immediately after this come the equally greater advantages of increased speed.

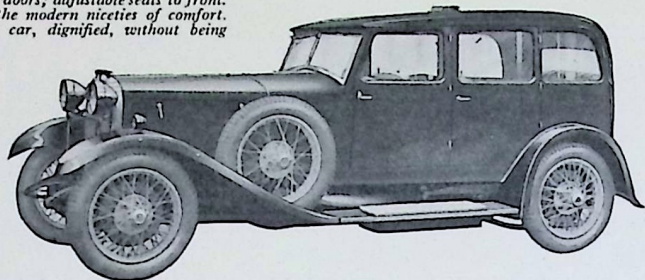
R with the silent single sleeve

# ARROL-ASTER

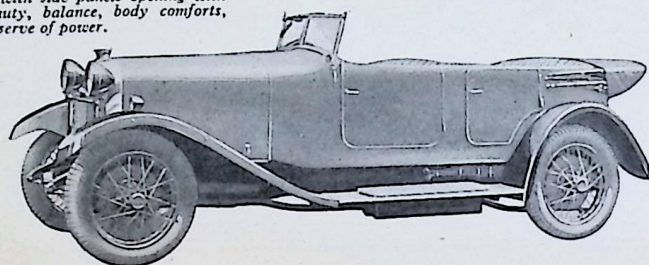
## 17/50 H.P.

SINGLE SLEEVE-VALVE  
ENGINE AND ONE-SHOT  
LUBRICATION

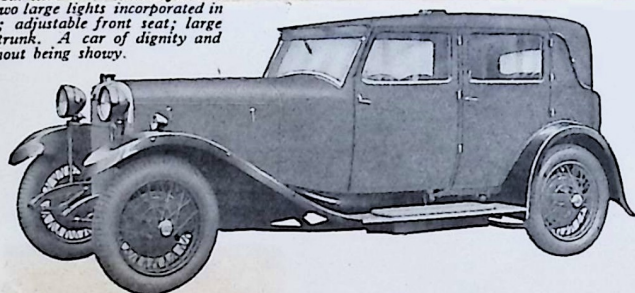
**17/50  
Arrol-Aster Coachbuilt Saloon**  
Four wide doors; adjustable seats to front.  
With all the modern niceties of comfort.  
A luxury car, dignified, without being  
showy.



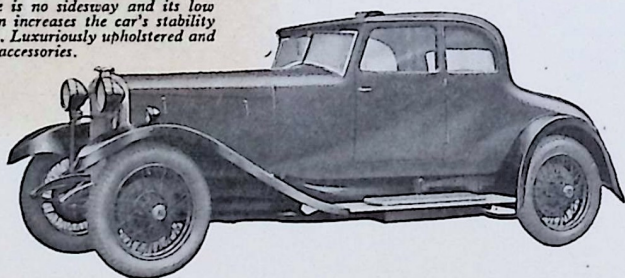
**17/50 Arrol-Aster Tourer**  
Open Five-Seater Tourer with four wide  
doors; well-cut, draughtproof all-weather  
equipment with side panels opening with  
doors. Beauty, balance, body comforts,  
generous reserve of power.



**17/50 Arrol-Aster Fabric Saloon**  
A roomy Fabric Saloon to comfortably  
seat five. Four wide doors with adjustable  
windows; two large lights incorporated in  
back panel; adjustable front seat; large  
travelling trunk. A car of dignity and  
luxury without being showy.



**17/50  
Arrol-Aster Coachbuilt Coupé**  
Coachbuilt Three-Seater Coupé of special  
design. Deep low seats with ample leg  
room. There is no sideway and its low  
sprung design increases the car's stability  
at all speeds. Luxuriously upholstered and  
with usual accessories.



ALL 17/50 H.P. ARROL-ASTER MODELS

## £598

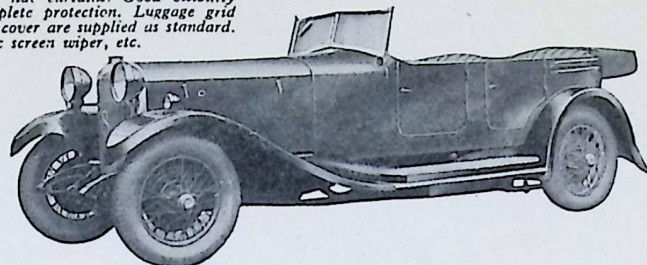
ASK AT OLYMPIA STAND 104  
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# ARROL-ASTER

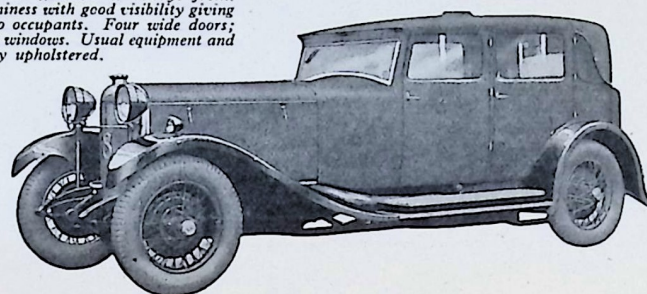
## 23/70 H.P.

SINGLE SLEEVE-VALVE  
"STRAIGHT-EIGHT."  
ONE-SHOT LUBRICA-  
TION AND CHROMIUM  
PLATING

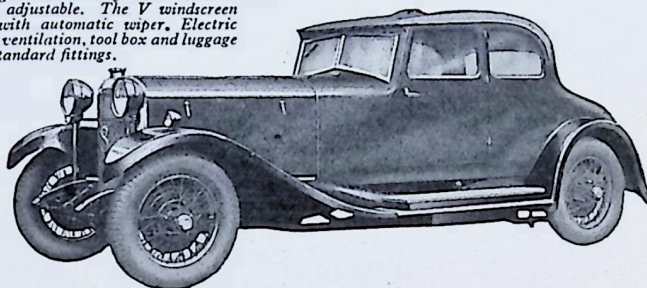
**23/70 Arrol-Aster Tourer**  
Five-Seater Tourer. An economical car  
giving care-free service. Fast, with liberal  
seating accommodation. One-man hood  
and rigid side curtains. Good visibility  
with complete protection. Luggage grid  
and hood cover are supplied as standard.  
Automatic screen wiper, etc.



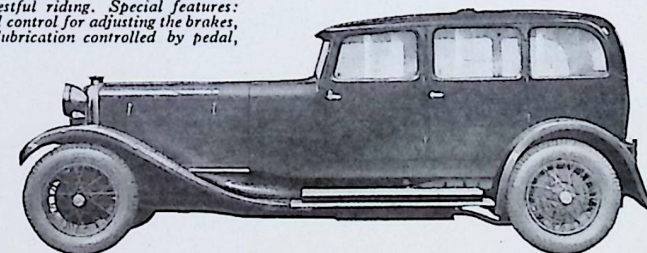
**23/70 Arrol-Aster Fabric Saloon**  
Fabric Saloon to seat five, with a body  
which in all weathers is always fresh.  
Deep roominess with good visibility giving  
privacy to occupants. Four wide doors;  
adjustable windows. Usual equipment and  
luxuriously upholstered.



**23/70 Arrol-Aster Coupé**  
Coupé. An ideal coupé, comfortable and  
noiseless. Ample room for three abreast  
and a large double dickey seat. All win-  
dows are adjustable. The V windscreen  
is fitted with automatic wiper. Electric  
light, roof ventilation, tool box and luggage  
grid are standard fittings.



**23/70  
Arrol-Aster Coachbuilt Saloon**  
Coachbuilt Saloon to seat five. Richness  
of finish throughout, ample leg room and  
deeply cushioned seats set comfortably low  
making restful riding. Special features:  
floorboard control for adjusting the brakes,  
one-shot lubrication controlled by pedal,  
etc.



ALL 23/70 H.P. ARROL-ASTER MODELS

## £798

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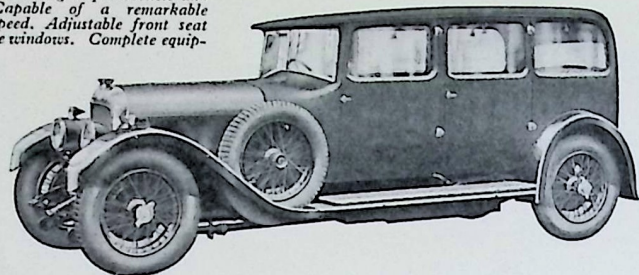
# The Astounding ARROL-ASTER

# The ASTER

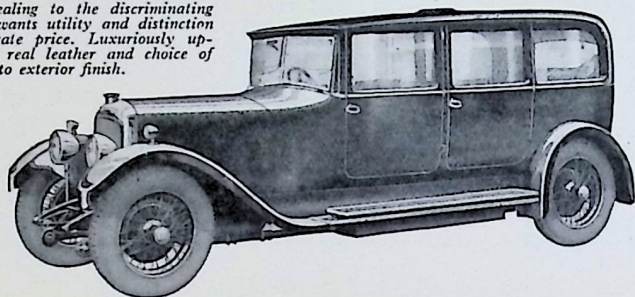
## 21/60 and 24/70

H.P. H.P.

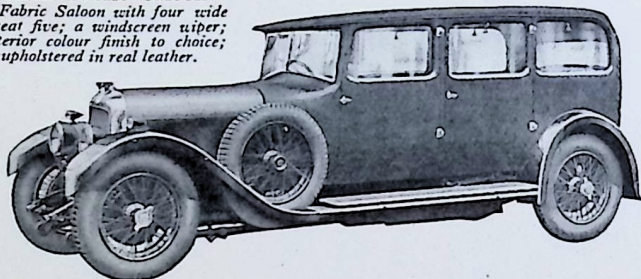
**21/60 Aster Fabric Saloon**  
*This car has amazing responsiveness and flexibility. Capable of a remarkable average of speed. Adjustable front seat and adjustable windows. Complete equipment.*



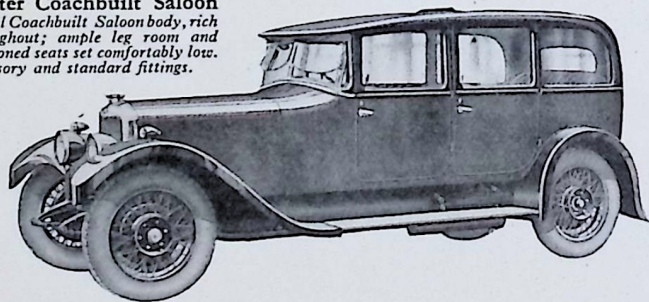
**21/60 Aster Coachbuilt Saloon**  
*A car appealing to the discriminating buyer who wants utility and distinction at a moderate price. Luxuriously upholstered in real leather and choice of five colours to exterior finish.*



**24/70 Aster Fabric Saloon**  
*A roomy Fabric Saloon with four wide doors, to seat five; a windscreen wiper; mirror, exterior colour finish to choice; luxuriously upholstered in real leather.*



**24/70 Aster Coachbuilt Saloon**  
*A substantial Coachbuilt Saloon body, rich finish throughout; ample leg room and deeply cushioned seats set comfortably low. Every accessory and standard fittings.*



21/60 ASTER MODELS  
 H.P. from **£860**

24/70 ASTER MODELS  
 H.P. from **£1200**

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## Complete Equipment

All ARROL-ASTER and ASTER cars have many standard fittings. There is not one which is unnecessary; each has its real use, and nothing has been inconveniently placed. Features of special interest are a floorboard control for adjusting the brakes, 'one-shot' lubrication controlled by a pedal, extra large brake drums, a draught cover for the hand-brake, and a unique casing for all cables fixed to the engine side of the dashboard, so that all engine connections are neatly covered.

### Open Tourers

Dynamo lighting and starting set; spare wheel and tyre; electric horn; speedometer; clock; shock absorbers front and rear; petrol gauge; oil gauge; luggage grid; sloping windscreen to open; mirror; automatic screen wiper. Exterior finish cellulose; black, brown, grey, blue or maroon with brown antique leather.

### Fabric Saloons

Dynamo lighting and starting set; spare wheel and tyre; electric horn; speedometer; clock; shock absorbers front and rear; petrol gauge; oil gauge; adjustable front seat; detachable travelling trunk at rear; roof ventilator; spring blind to rear window operated from the driver's seat; sloping windscreen to open; mirror; automatic screen wiper. Exterior finish black or brown fabrikoid, and luxuriously upholstered in sealing wax red leather or brown furniture hide.

### Coupés

Dynamo lighting and starting set; spare wheel and tyre; electric horn; speedometer; clock; shock absorbers front and rear; petrol gauge; oil gauge; adjustable front seat; roof ventilator; spring blind to rear window; V screen to open; mirror; automatic screen wiper. Exterior finish cellulose; black, brown, grey, blue or maroon to choice, and luxuriously upholstered in sealing wax red leather or brown furniture hide.

### Coachbuilt Saloons

Dynamo lighting and starting set; spare wheel and tyre; electric horn; speedometer; clock; shock absorbers front and rear; petrol gauge; oil gauge; adjustable front seats; automatic screen wiper; roof ventilator; luggage grid; spring blind to rear window operated from driving seat; V windscreen to open; mirror. Exterior finish cellulose; black, brown, grey, blue or maroon to choice. Luxuriously upholstered in sealing wax red leather or brown furniture hide.

R with the silent single sleeve

## FURTHER PARTICULARS

**W**E shall be glad to give full particulars of any car. Write to us immediately and we will arrange a trial run with your local agent without any expense to you in any way

**ARROL-JOHNSTON & ASTER  
ENGINEERING CO. LIMITED  
DUMFRIES  
SCOTLAND**

