

# AMAL

LIST No. 357 (Issue No. 1)

## AMAL PRODUCTS FOR THE MOTOR CYCLE INDUSTRY

**CARBURETTORS**

**TWIST GRIPS**

**CONTROL LEVERS**

**CONTROL CABLES**

**BALL AND ROLLER JOINTS**

**AIR FILTERS**

**CLUTCH AND BRAKE LEVERS**

**FLOWMETERS**

**JET CALIBRATING MACHINES**

DESIGNED AND MADE UNDER THE NAME

# AMAL

TRADE

MARK

### ENQUIRIES

**AMAL LTD.,**  
HOLDFORD ROAD,  
WITTON,  
BIRMINGHAM, 6,  
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Telephone :  
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(P.B.X. 6 lines).  
Telegrams :  
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The company of Amal Ltd. was founded in 1927 uniting the three Companies of Amac, B. & B. and Binks, and so the experience in carburettor and component design and manufacture, is as old as the industry. This experience is at your service. The Company's staff is in close contact with motor cycle and small engine designers, keeping abreast with the times and the requirements of new designs as they develop. In the new factory, quantity production is carried out by specialised tooling: accuracy is ensured by gauging and inspection. Tuning and repairs are undertaken at the factory by arrangement.

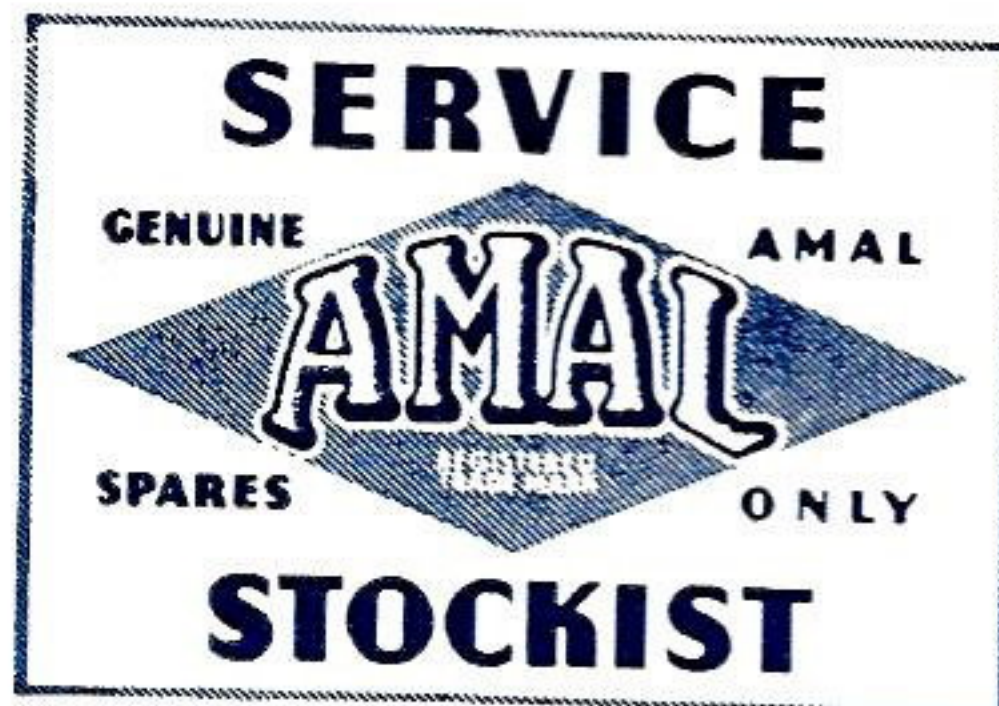
### CATALOGUES

Each component here illustrated has its own descriptive list which is available if you will enquire for it by the list number given by the illustration.

Our products are described in our lists so that the reader can get a practical knowledge of how they work. Our "Hints and Tips" on carburettor tuning and maintenance are easy to follow and understand, enabling the user to always get the best results.

Our lists indicate how to select the most suitable component or carburettor, but should any technical question arise—our experience in carburation for motor cycle touring, sporting events and racing is available on request. This also applies to carburettors for pedal cycle and auxiliary motors.

### SERVICE



SERVICE STOCKISTS SIGN

The Company have a world-wide policy of making a service of spares available wherever motor cycling is popular. In GREAT BRITAIN our Service Stockists have been appointed amongst recognised dealers who have proved their interest in carburettors and have undertaken to keep stocks as far as we are in a position to supply them; their names and addresses are printed in our List 349 series. Overseas, in Australia, Canada, New Zealand, India and the Far East; the Near East and Egypt; Europe; Africa; North and South America, we have Agents and Service Stockists, also other contacts, as set out in our List 354.

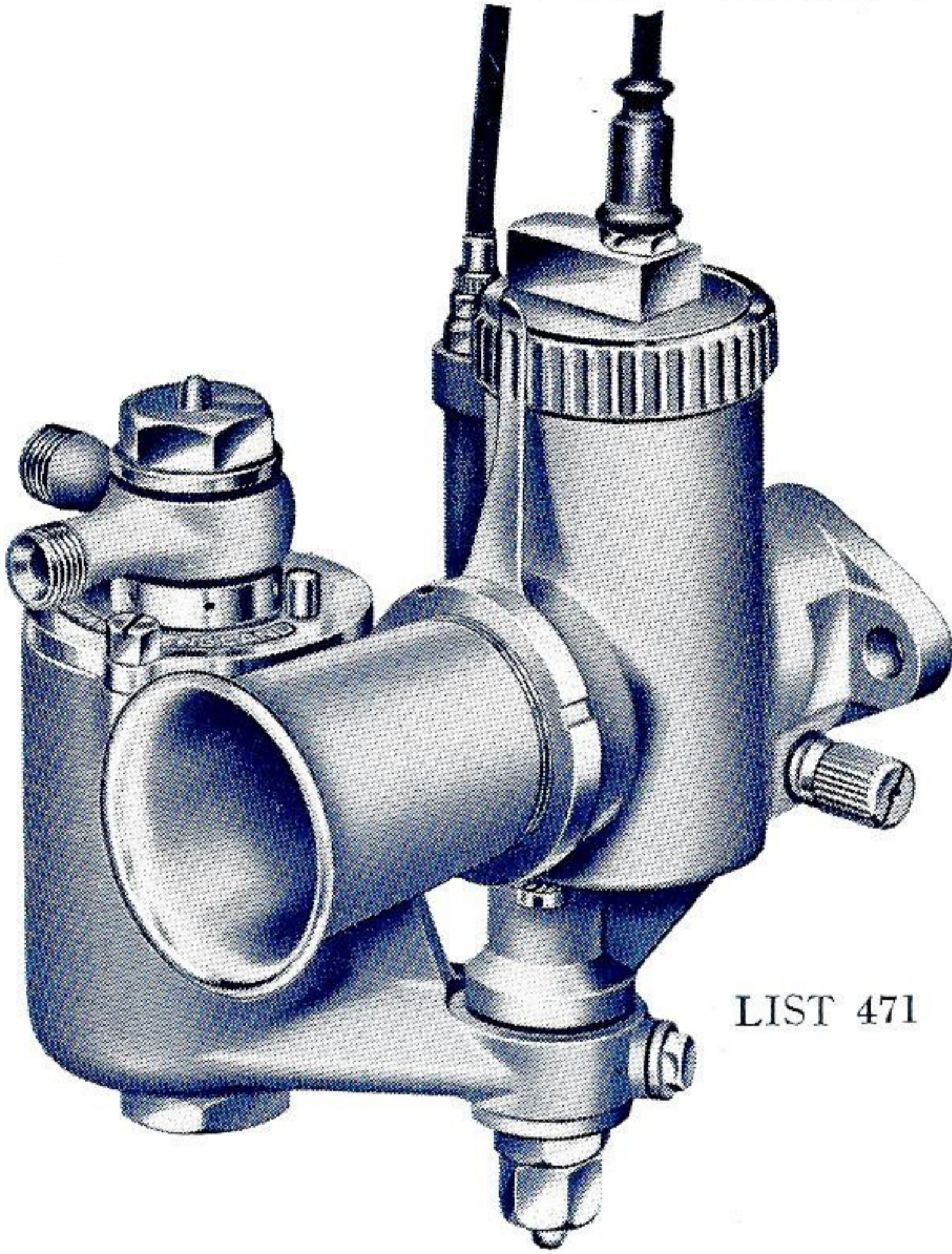
**AMAL LTD., HOLDFORD ROAD, WITTON,  
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BIRMINGHAM."

# AMAL

## RACING CARBURETTORS CONTROL CABLES AIR FILTERS



LIST 471

### THE G.P. CARBURETTORS

#### TYPES 10, 15 and 5 WITH RACING FLOAT CHAMBERS TYPE 302

This carburettor, by its outstanding achievements in classic races, now takes pride of place: it was fitted to the winning machines in the 350 and 500 c.c. classes in the Isle of Man T.T. races; it was used on Norton machines which hold World Championships, and has proved itself in every way to provide perfect carburation under all circumstances. Its design combines the basic features of the Amal T.T. and R.N. carburettors and avoids the limitations of both: the feature of the remote needle is now incorporated but within the mixing chamber barrel itself and its design is such that alcohol fuel may be used. It has all the advantages of the renowned T.T. carburettor but with the needle control to the jet, removed from the passage through the main bore, so that there is nothing to obstruct the passage of air to fill the cylinder at the highest speeds now attainable.

The float chamber Type 302 has already proved to give an adequate feed under all circumstances at a constant level: it can be either attached to the mixing chamber or preferably, remotely fitted to minimise the effects of vibration. The mixing chamber and float chamber bodies are made from light metal alloy and so the large bores now used do not mean undue weight. The principle of tuning is not altered so that experience gained on the other models is not lost, but made more effective for acceleration and maximum power.

### T.T.9 CARBURETTORS. LIST 374.

This well-known instrument must now give way to the G.P. model for factory produced racing machines, to be used in classic races. However, it will continue to have its use amongst Amateurs for sports machines. It can be used for petrol and alcohol, and the float chamber type 302 will provide adequate feed for either. Tuning is simple and easy and follows well-known principles.

### TRACK RACING CARBURETTORS. LIST 324.

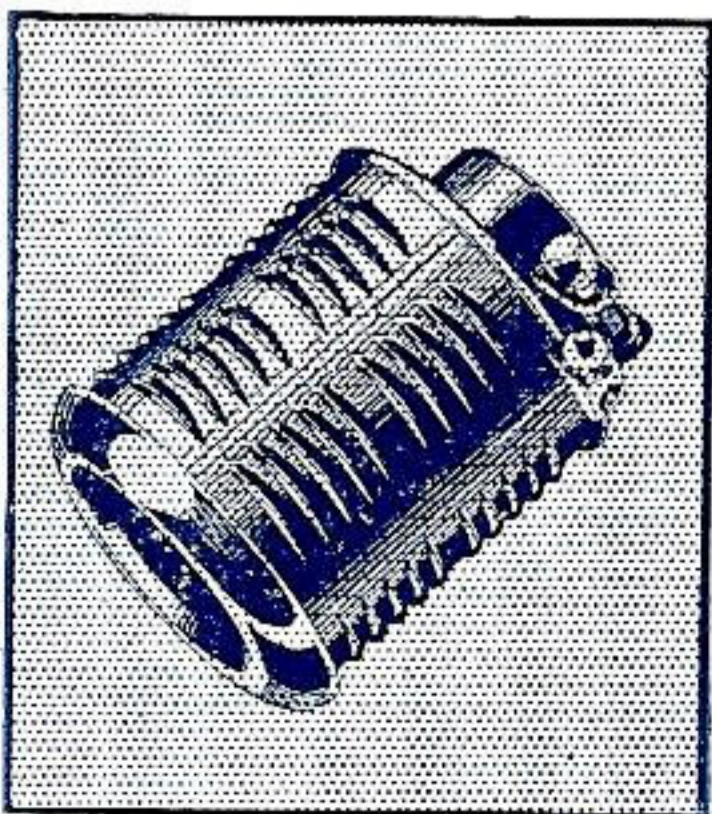
These are large bore, straight through carburettors without needle control, with double float chambers—used extensively for speedway racing.



LISTS 331 & 336

### CONTROL CABLES. Made in Five Sizes.

The Cables are very flexible and waterproof, the colour of the outer cover is black with ferrules fitted suitable for use in carburettor and ignition controls, and for clutches, brakes, etc. The non-fray inner wire has every advantage in strength and handling: it can be cut to length without previous soldering, which is a boon to the owner, the fitter and the stockist alike.



LIST 325

### AIR FILTERS.

Dust and road grit entering through the carburettor causes extensive damage to both the engine and the throttle. We can provide a range of adaptable air filters, which may fit direct on to the carburettor intake in place of the air funnel, or by a cranked elbow specially made.

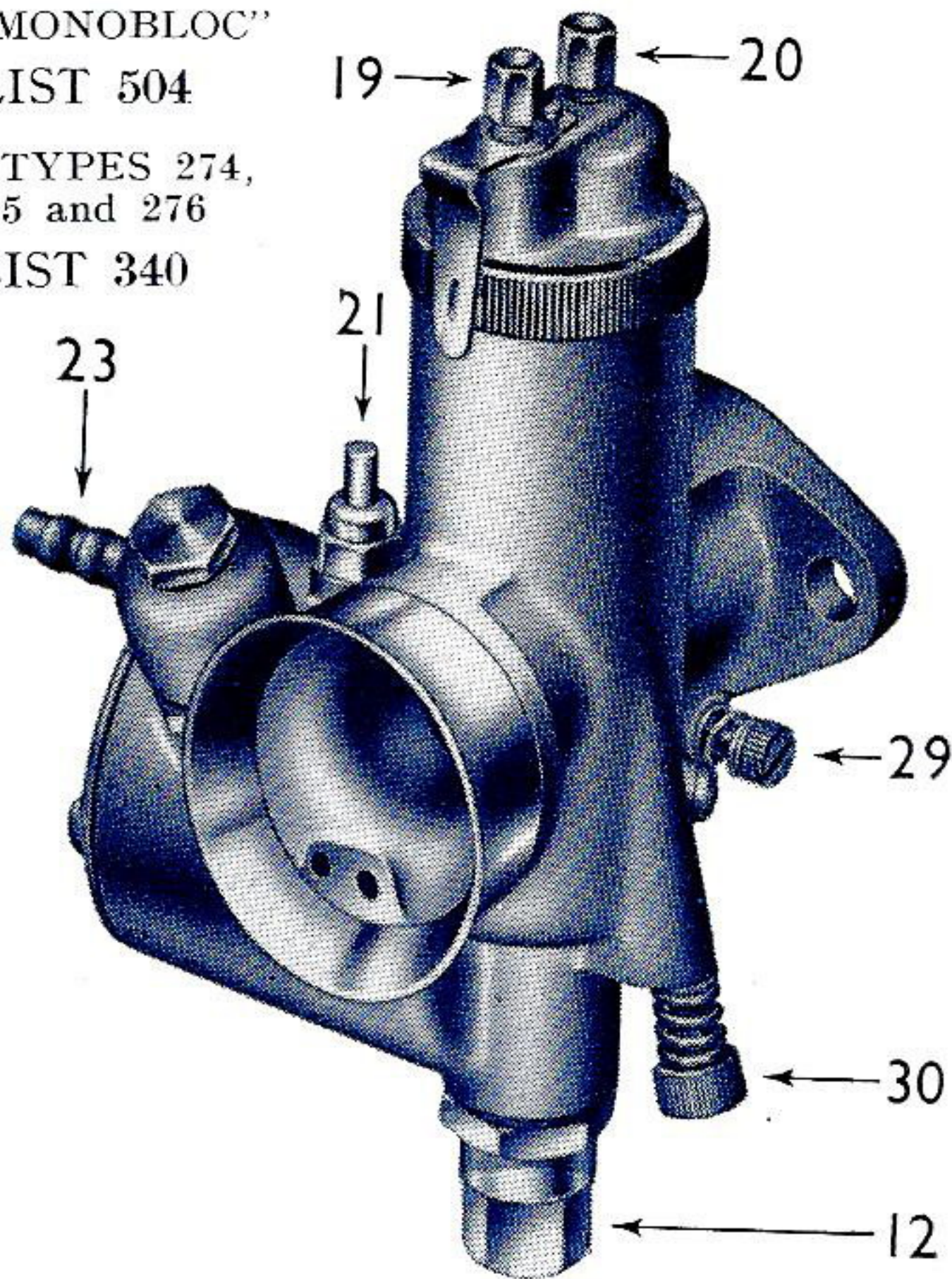
These filters have different filtering mediums—felt, metal-wool which is impregnated with oil, and gauze, mentioned in order of efficiency; the former require more care in regular cleaning and will require some modification in jet size when first fitted.

# AMAL

## CARBURETTERS FOR MOTOR CYCLES AND CYCLE AUXILIARY ENGINES

For "MONOBLOC"  
LIST 504

For TYPES 274,  
275 and 276  
LIST 340



### The "MONOBLOC" NEEDLE JET CARBURETTER WITH PILOT JET FOR ENGINES OF 175 TO 1,000 c.c.

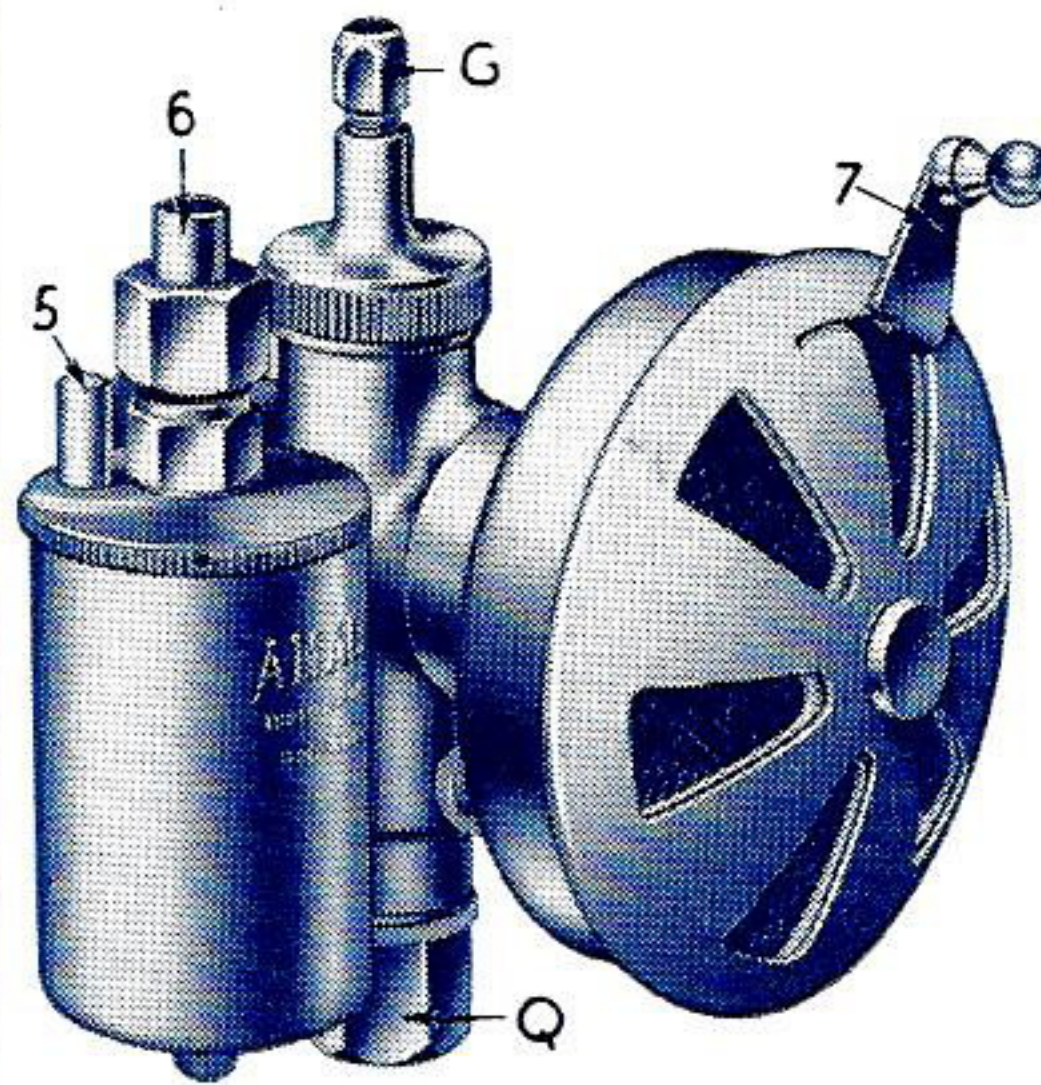
This "Monobloc" design carburetter which is gradually replacing the renowned 274, 275, 276 series carburetter fitted to engines of British manufacture and to some European motor cycles.

When the engine is warm, the action of the carburetter is automatic and to facilitate starting from cold, an air valve is incorporated; when the engine is warm this is left open. The piston type throttle gives perfect and graduated control of engine speed and its cut-away assures the blending of the two systems—the pilot jet for slow running and main jet for power. The throttle carries a taper needle operating in a needle jet that carries the main jet, and as the throttle is opened and closed, so the petrol supply is accurately metered—ensuring increased flexibility and economy.

The carburetters have calibrated jets. Easy starting, slow running, acceleration flexibility, power and economy are all obtainable because of the design and also, because the carburetter is so simple to tune up by the owner.

#### INDEX.

- |                                |                                |
|--------------------------------|--------------------------------|
| 12. Main Jet Cover.            | 21. Tickler.                   |
| 19. Cable Adjuster (Air).      | 23. Banjo.                     |
| 20. Cable Adjuster (Throttle). | 29. Pilot Air Adjusting Screw. |
|                                | 30. Throttle Adjusting Screw.  |



LIST 340

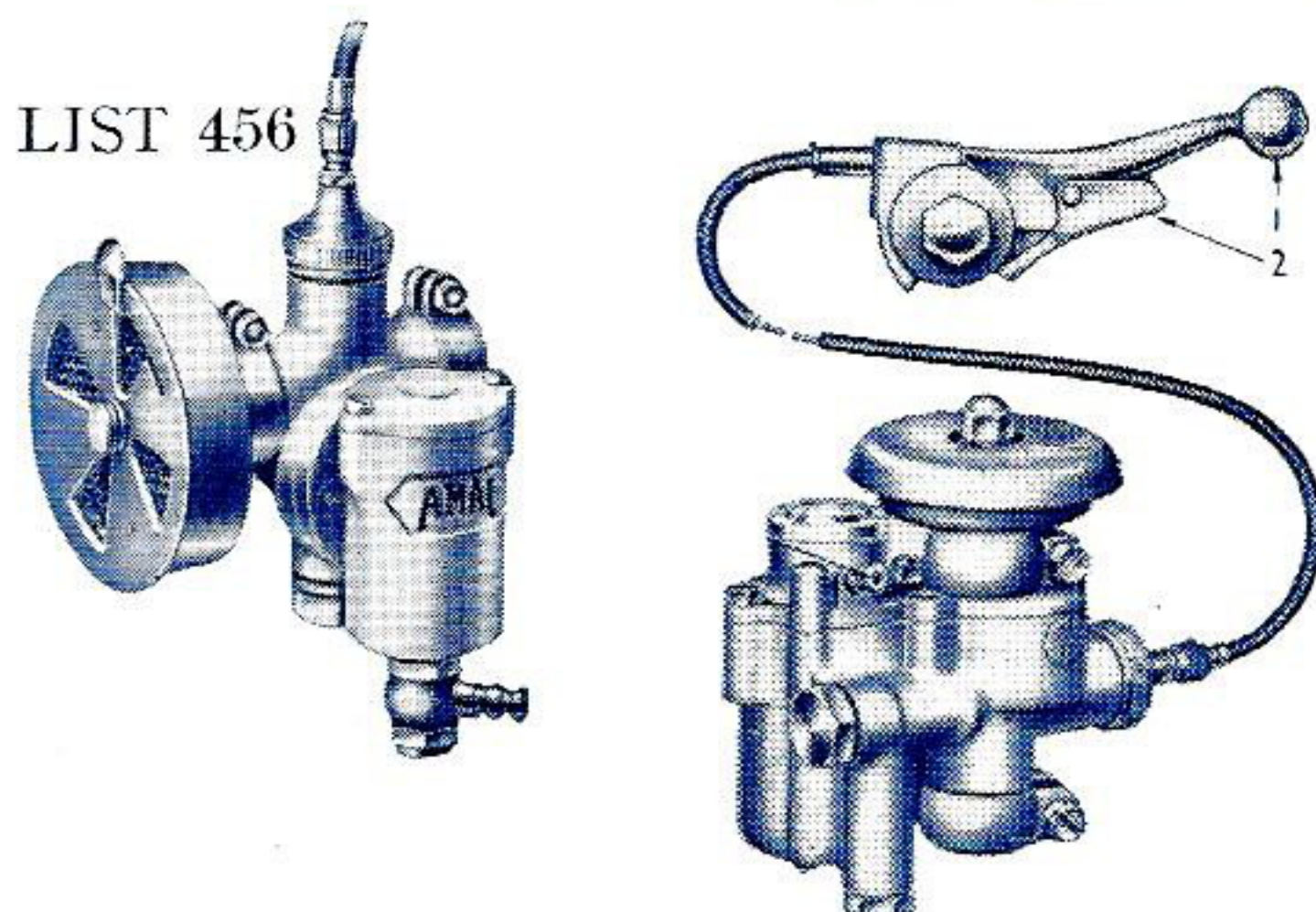
#### INDEX.

- Engine connection by clip fitting only.
5. Tickler on float chamber lid to facilitate starting.
  6. Petrol pipe connection.
  7. Starting from cold shutter. This is incorporated in an air filter filled with metal wool and impregnated with oil.
  - G. Throttle cable adjuster.
  - Q. Cap, to cover main jet.

### THE STANDARD NEEDLE JET CARBURETTER. WITHOUT PILOT JET FOR SMALL 2-STROKES

This small carburetter has been evolved to meet the peculiarities and difficulty of tuning small 2-stroke engines, which require small jets that would easily become clogged with the oil in the petrol/oil mixture used for lubrication. There is only one jet—the main jet of reasonable size, easily accessible under cap Q. This jet controls the maximum supply of fuel for power at full throttle: it is screwed into a needle jet of large bore and into this needle jet there hangs a taper needle attached to the throttle; as the throttle is closed so the fuel supply is cut down proportionately and the idling mixture is set by the shape of the throttle base which regulates the suction on the needle jet. After standing some time, opening the throttle breaks the oil film that may have blocked the jet.

### CARBURETTERS TYPES 308 and 335, NEEDLE JET CONTROLLED FOR CYCLE AUXILIARY ENGINES UP TO 50c.c.



LIST 456

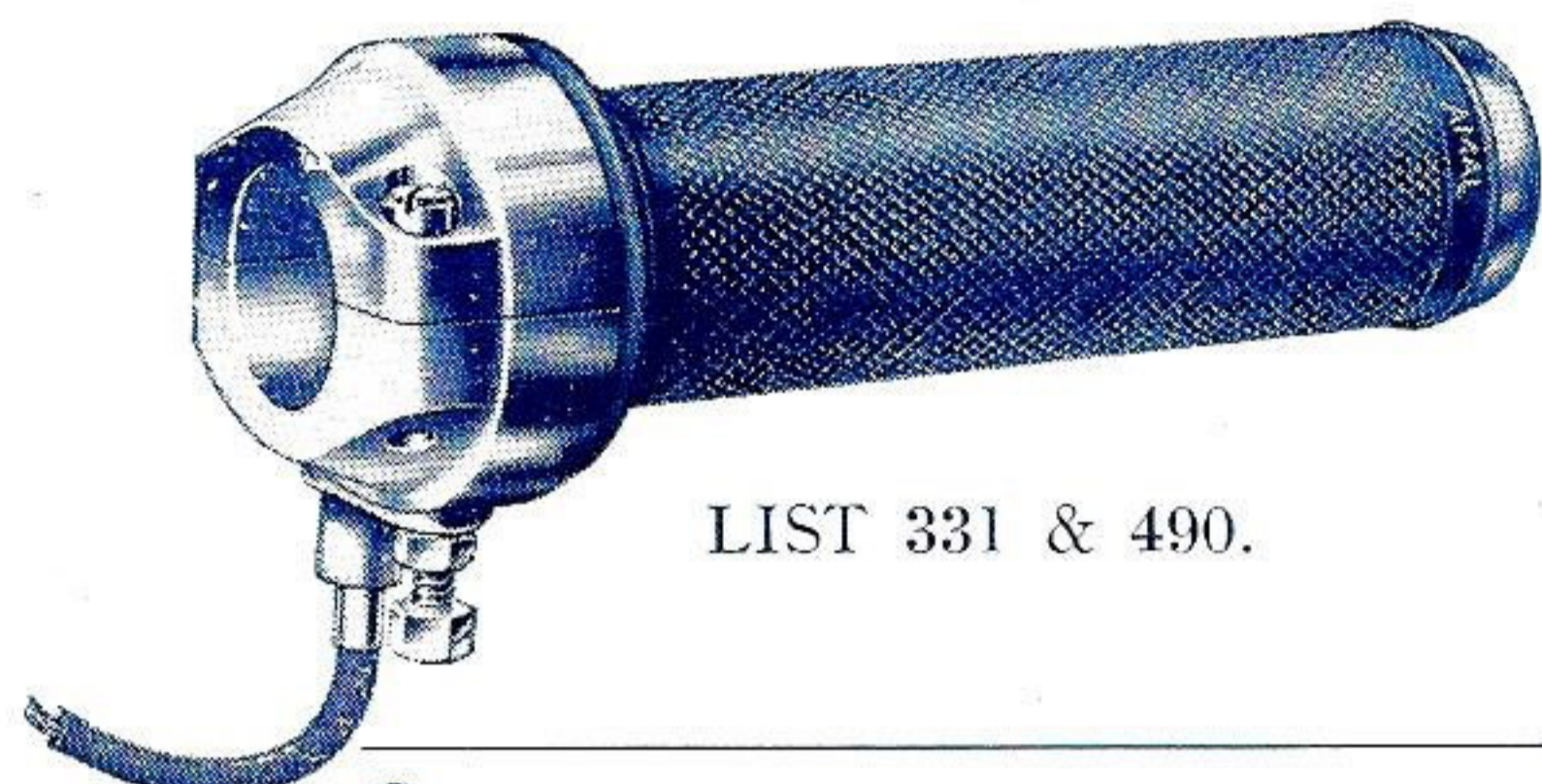
LIST 494

These tiny carburetters have been developed as the one above on the sound basis of experience with small engines and reduced in size and weight to meet the requirements of the pedal cycle engine, built either in the wheel or to drive on the tyre. It is piston throttle operated to give full power to the engine and to the rider a feeling of control as the throttle is opened or closed. The main jet is accurately calibrated to a required standard and all parts are precision made to gauges. The needle jet control above the main jet provides a means of accurate carburation and therefore economical running. Type 308 is fitted with an air filter which incorporates a strangler for use when starting from cold. Type 335 incorporates a strangler in the carburetter itself, which is operated and closed from the handlebar by over opening the throttle lever (1) after its trigger (2) has been depressed. An air filter is also fitted.

# AMAL

## CONTROLS FOR HANDLEBARS FLOWMETERS

## BALL AND ROLLER JOINTS JET CALIBRATING MACHINES

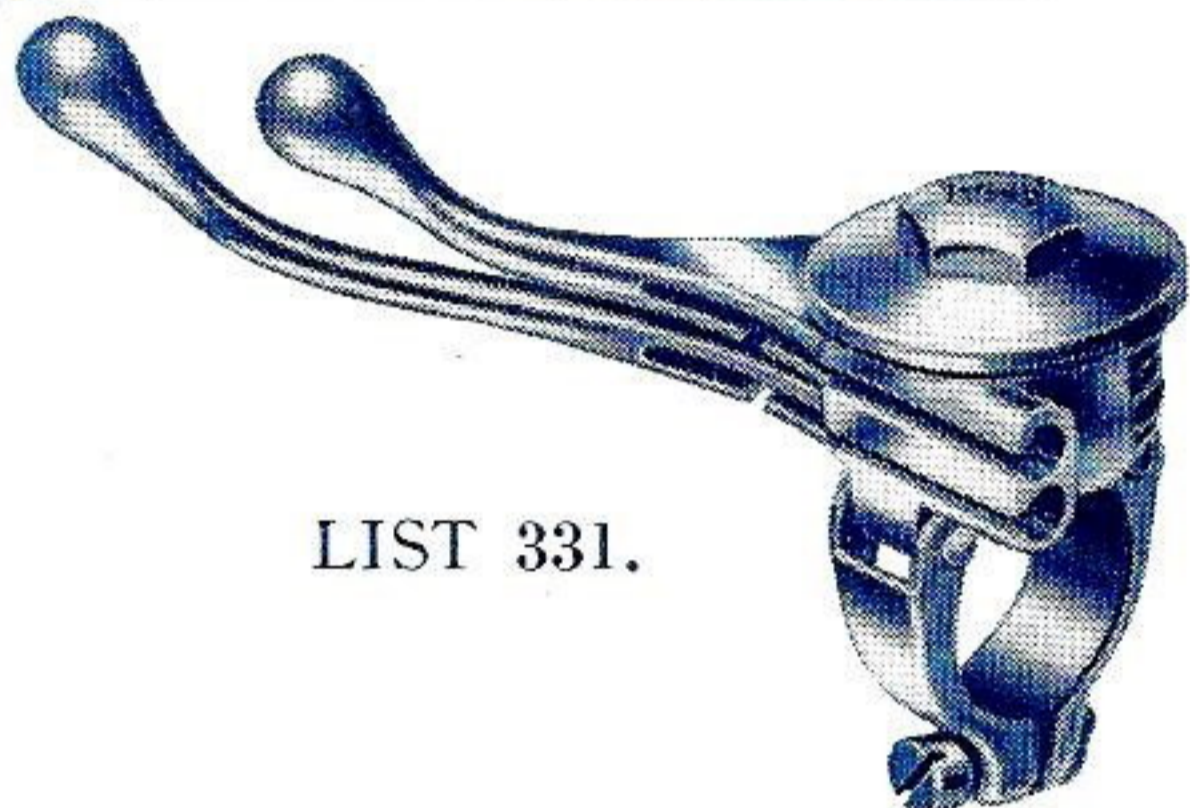


LIST 331 & 490.

### TWIST GRIPS.

Four types of Twist Grips cater for the following applications:—

Racing and Sports Machines with twin carburettors;  
Racing and Sports Machines with single carburettors;  
Standard Touring Machines; Lightweight Machines.

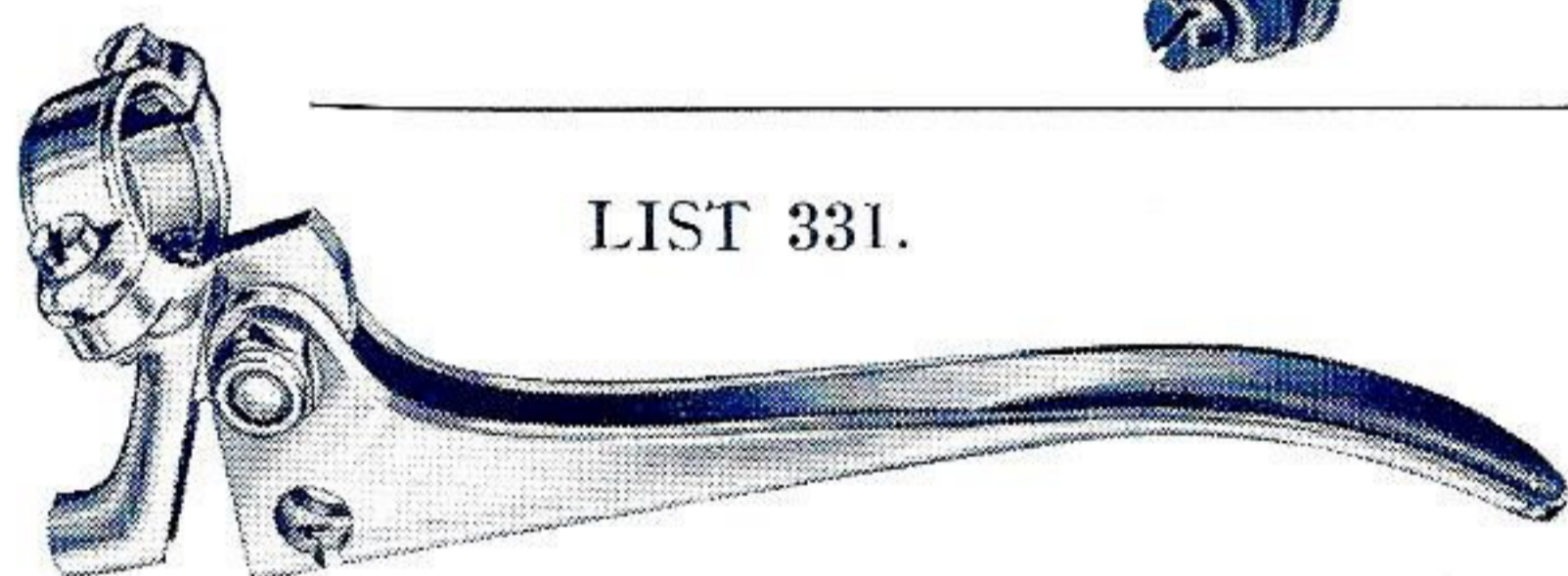


LIST 331.

### CONTROL LEVERS.

These levers are elegant—comfortable to handle and stay-put in the position desired. They are made to fit on 1 inch and  $\frac{7}{8}$  inch bars, also 25 m.m. and 22 m.m. sizes. They are suitable for controlling either the throttle and air valve, or throttle and ignition advance and retard. The two levers have a securely anchored dividing plate, and each has its own friction adjustment, which can be set to the driver's own liking.

The control can be supplied as a single lever.



LIST 331.

### BRAKE AND CLUTCH LEVERS.

These levers are made to fit 1 inch or  $\frac{7}{8}$  inch and 25 m.m. and 22 m.m. bars. The clamp is made from a stamping and the lever from a beautifully shaped steel pressing, immensely strong and comfortable in shape. The leverage is correct and gives a straight pull of  $\frac{3}{4}$  inch, 19 m.m. The lever can be combined with the control levers above.

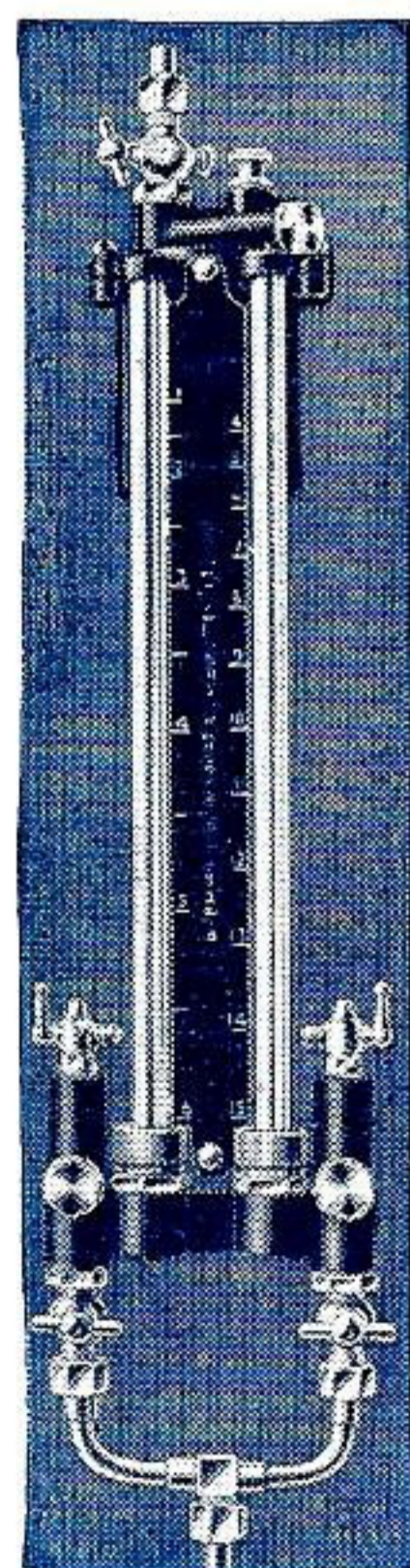
LIST 387.



### BALL AND ROLLER JOINTS FOR ROD CONTROLS.

For control rods with angular motion, giving secure but free movement.

The Ball joint has a micrometer adjustment for wear. The Roller joint is exceedingly robust in construction.



USED BY  
ENGINE MAKERS  
IN THEIR  
TEST SHOPS AND  
RESEARCH  
DEPARTMENTS

also used  
IN LARGE REPAIR SHOPS.

LIST 323.

### FLOWMETERS.

The instrument is for reading the fuel consumption instantly and accurately when the engine is under test on the brake-test bed. The fuel is fed from the tank to the carburetter, through the flowmeter: As engine speeds are varied by throttle opening or load, so the fuel level in the gauge glass rises or falls and its level position at any instant against the scale, discloses the rate of consumption in pints, litres or gallons per hour.

### JET CALIBRATING MACHINES.

This instrument is for visually determining the rate of flow of petrol through a jet in c.c. per minute under conditions laid down by the British Standard Institution in pamphlet 720 of 1937.

Jets, in the process of manufacture are mounted into the machine and can be reamed *in situ* to bring them up to the size required by reference to the scale.

Also, jets in use and of doubtful flow can be quickly verified (1) as to their accuracy in relation to the absolute standard of flow required, or (2) in relation to a sample jet.

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