



THE MOTOR CYCLE, 15 JANUARY 1953

Carburettor Patent

A Floatless Instrument for Cyclemotors

THE advent of the very small cyclemotor type of petrol engine has posed something of a problem to the carburettor manufacturer. The very light float assembly of the conventional instrument can be affected by the high-frequency vibration of the unit. The result is that the needle does not seat properly and there is a tendency to flooding and over-rich mixture.

An interesting attack on the problem has been made by Amal, Ltd., in conjunction with C. R. B. Smith and F. H. T. Izon. Details are published in Patent Specification No. 685,124. It is claimed for this new design of carburettor that, by eliminating the source of trouble, improved carburation and economy are obtained.

Details of the carburettor are shown in the illustration; its primary feature is that there is no float chamber. The throttle control operates also a fuel admission valve; the arrangement is such that the latter opens slightly in advance of the throttle, with the result that a weak starting mixture is avoided.

The basic supply of petrol is governed by a main jet in the base of the carburettor. Above the main jet is the fuel admission valve which, when the throttle control is shut, is blanked off by the conical lower end of the taper needle; thus the fuel supply is stopped. This needle operates in a needle jet as on normal Amal instruments. The needle is screwed into a block fitted inside the throttle slide. In the closed position, the slide is held on to its seat in the choke tube by the lower of the two springs shown, and there is a small clearance between the upper surface of the block and the underside of the slide top.

The nipple on the control cable is located in the block, hence the needle is operated directly by the cable. Initial movement of the control from the closed position lifts the needle off its seat and permits fuel to flow into the needle jet. This movement also takes up the clearance between block and slide, when further opening causes the throttle slide to rise with the needle, so that mixture can be drawn into the engine. The size of the main jet is chosen to suit the engine concerned; it is of sufficient size to avoid fuel starvation at full throttle.

Safety Helmets

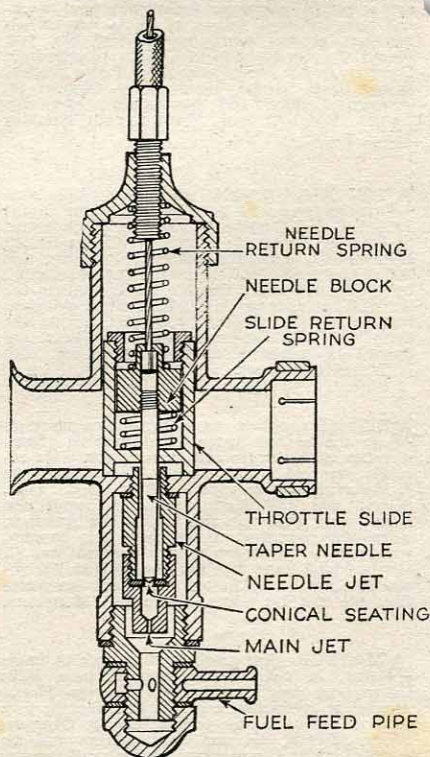
The question of safety helmets has been discussed by many writers—mostly by those who have no first-hand idea of what the cyclist himself thinks of the matter. The disinterested cyclist is often a few letters away from the manufacturer (and a few more from the rider) and the result is a mass of other folk's opinions.

The helmet is a piece of equipment which you must wear if you are riding a cycle. It is a simple answer to a question which originally was asked by a committee of the Royal Society. It is even on the list of things which a cyclist must have with him. It is a simple thing, but it is not a simple matter to make one which is safe and comfortable. It is a matter of mixed, I

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Details of a carburettor patented by Amal, Ltd.

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