

MOTOR CYCLING: Ninepence Every Thursday
TWO NEW BRITISH MODELS

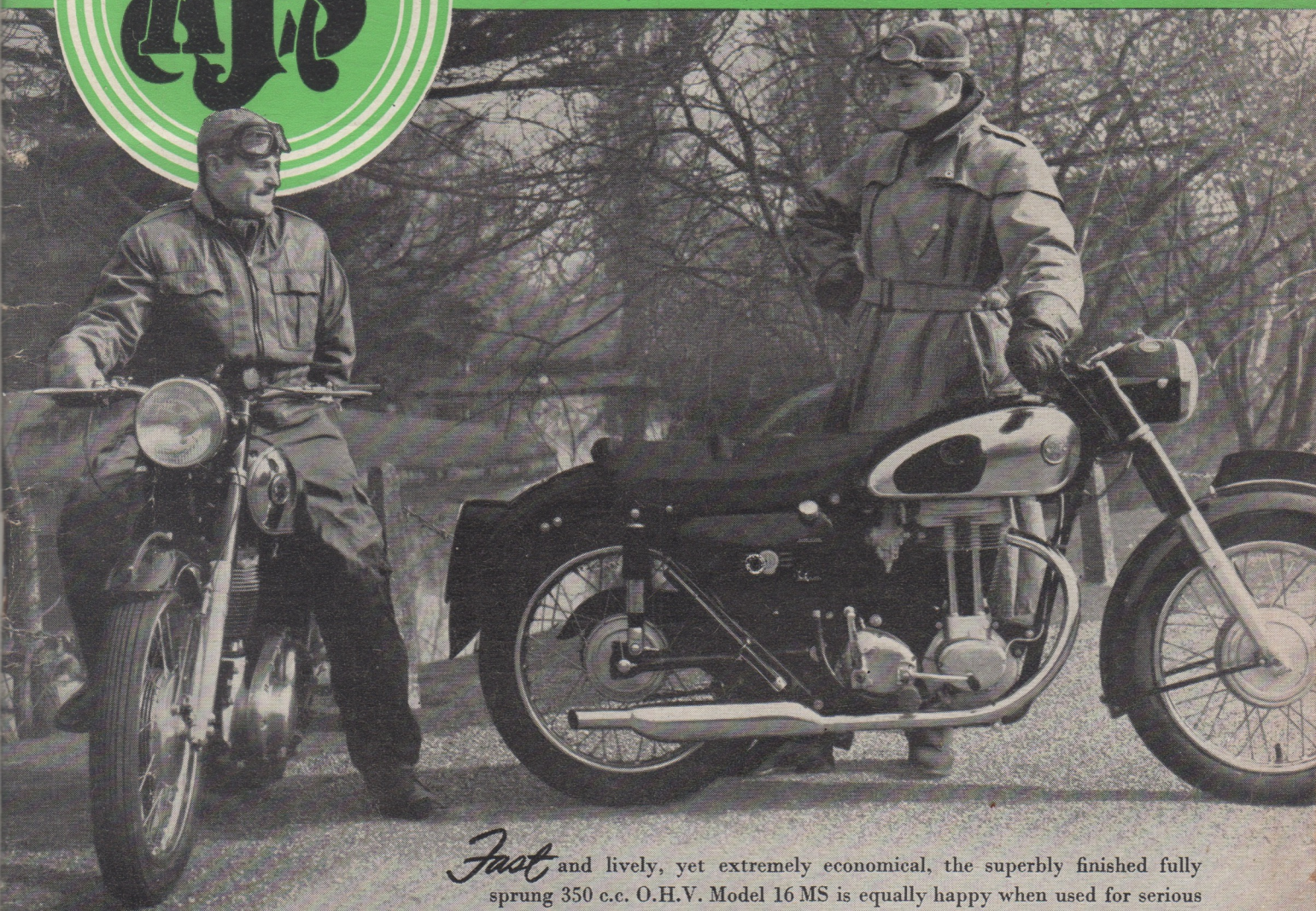
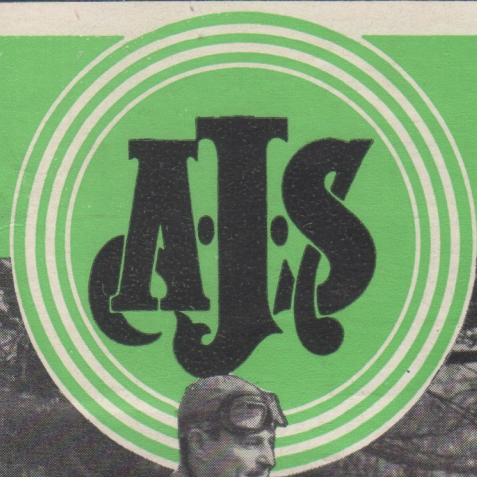
April 3, 1958

MOTOR CYCLING

READ WHEREVER MOTORCYCLES ARE RIDDEN

A pleasure to own . . .

. . . a joy to ride



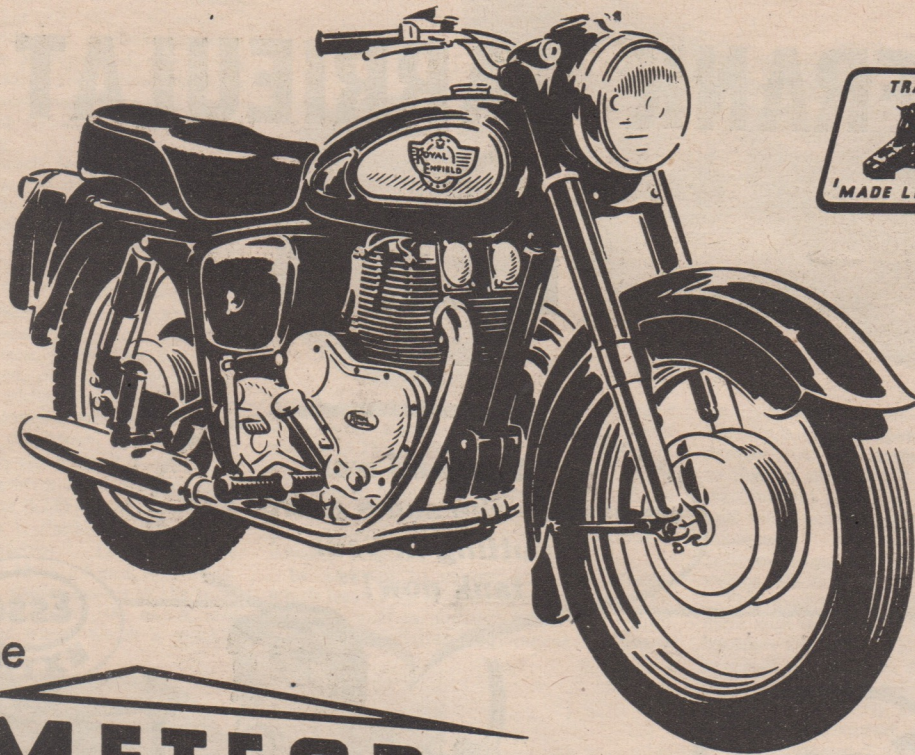
Fast and lively, yet extremely economical, the superbly finished fully sprung 350 c.c. O.H.V. Model 16 MS is equally happy when used for serious long distance touring with full equipment and a pillion passenger, for sporting purposes or for daily transport.

May we send you particulars?

TWO MORE EXCITING

from

Royal
with the accent



The

**METEOR
MINOR**

500 C.C. SHORT-STROKE TWIN
STANDARD OR DE LUXE VERSIONS



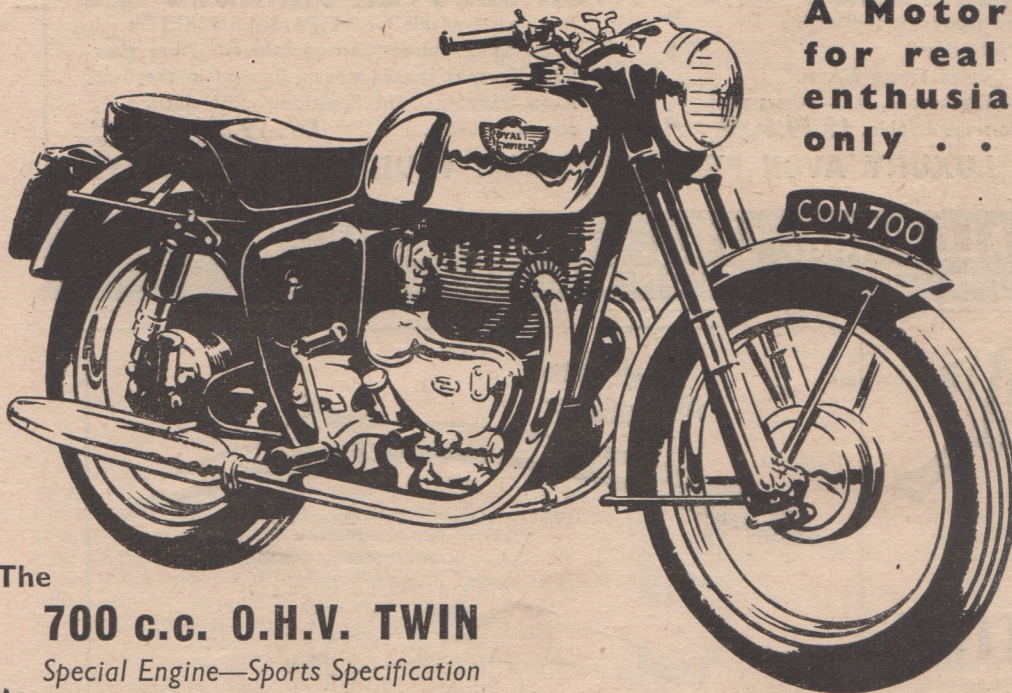
**Compact,
Power-
Packed!**

**WITH AMAZING NEW
EASY-TO-HANDLE
PERFORMANCE**

NEW MOTORCYCLES

Enfield
on performance!

**A Motorcycle
for real
enthusiasts
only**



The
700 c.c. O.H.V. TWIN
Special Engine—Sports Specification

★ Constellation ★

**★ 50 B.H.P.
PERFORMANCE
PAR
EXCELLENCE!**

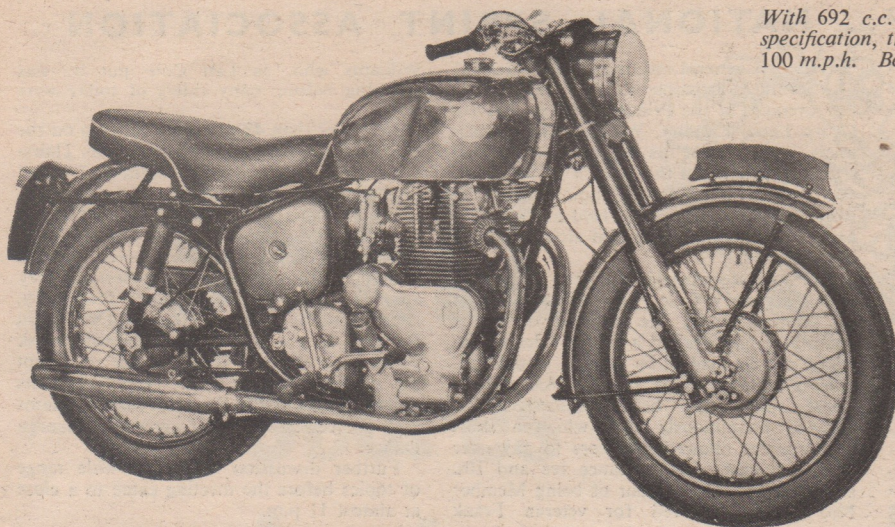
Please send me colour folders on the new "Constellation" and "Meteor Minor" models.

NAME.....

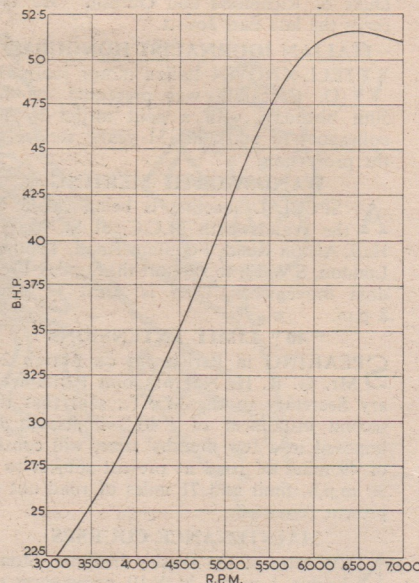
ADDRESS.....

..... MCG 858

To THE ENFIELD CYCLE CO. LTD., REDDITCH, WORCS.



With 692 c.c. of high-performance engine and a sports specification, the "Constellation" is capable of well over 100 m.p.h. Below is the manufacturers' output curve for the power unit.



Three More Models

from Redditch

*New "Over-square" Standard and De luxe
"500" Twins and a High-performance Sports
"700" Join the Royal Enfield Range*

CONTINUING a steady springtime flow of new model announcements, Royal Enfields now wheel out a redesigned "500" twin listed as the "Meteor Minor" and top the range, in terms of performance potential, with a 700 c.c. model to be called the "Constellation." The "500" is available in standard and de-luxe forms and supersedes the previous twin of that engine size, but the "Constellation," in sports trim with a high-compression engine developing a claimed 50 b.h.p., is supplementary to the current "Super Meteor," which continues.

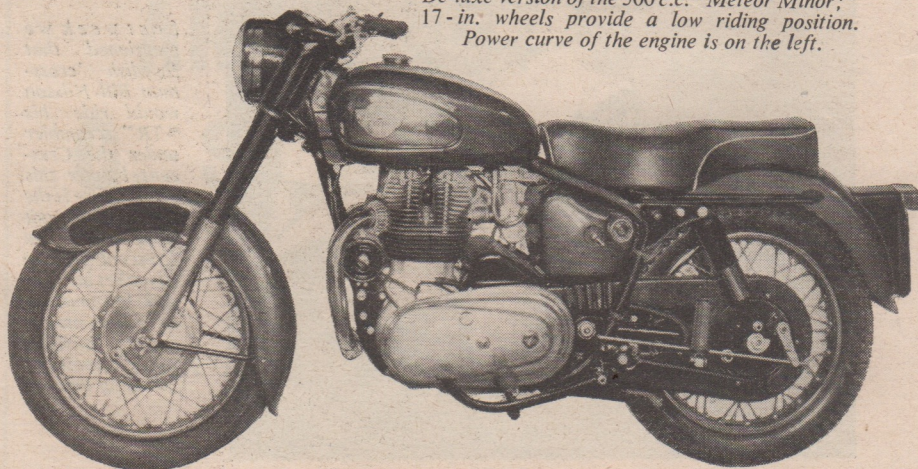
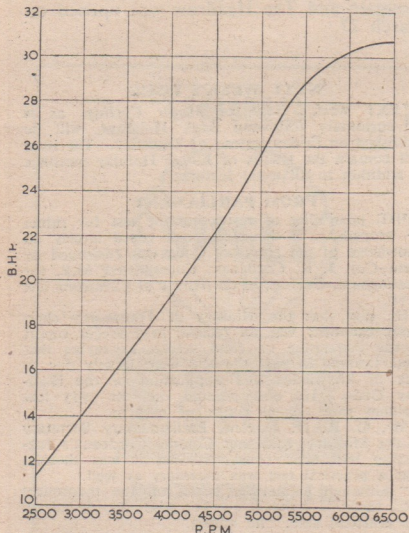
An outstanding specification item, one of several applicable to the new models in both capacities, is the adoption of a part-loop, part-open, chrome-molybdenum tubular frame based on the design used for the "Crusader." The "500" frame is to "Crusader" dimensions and that for the "700" is larger, but both provide for swing-

ing-fork rear suspension controlled by two-stage Armstrong units. Front suspension for both models is by orthodox Royal Enfield forks with two-way hydraulic damping.

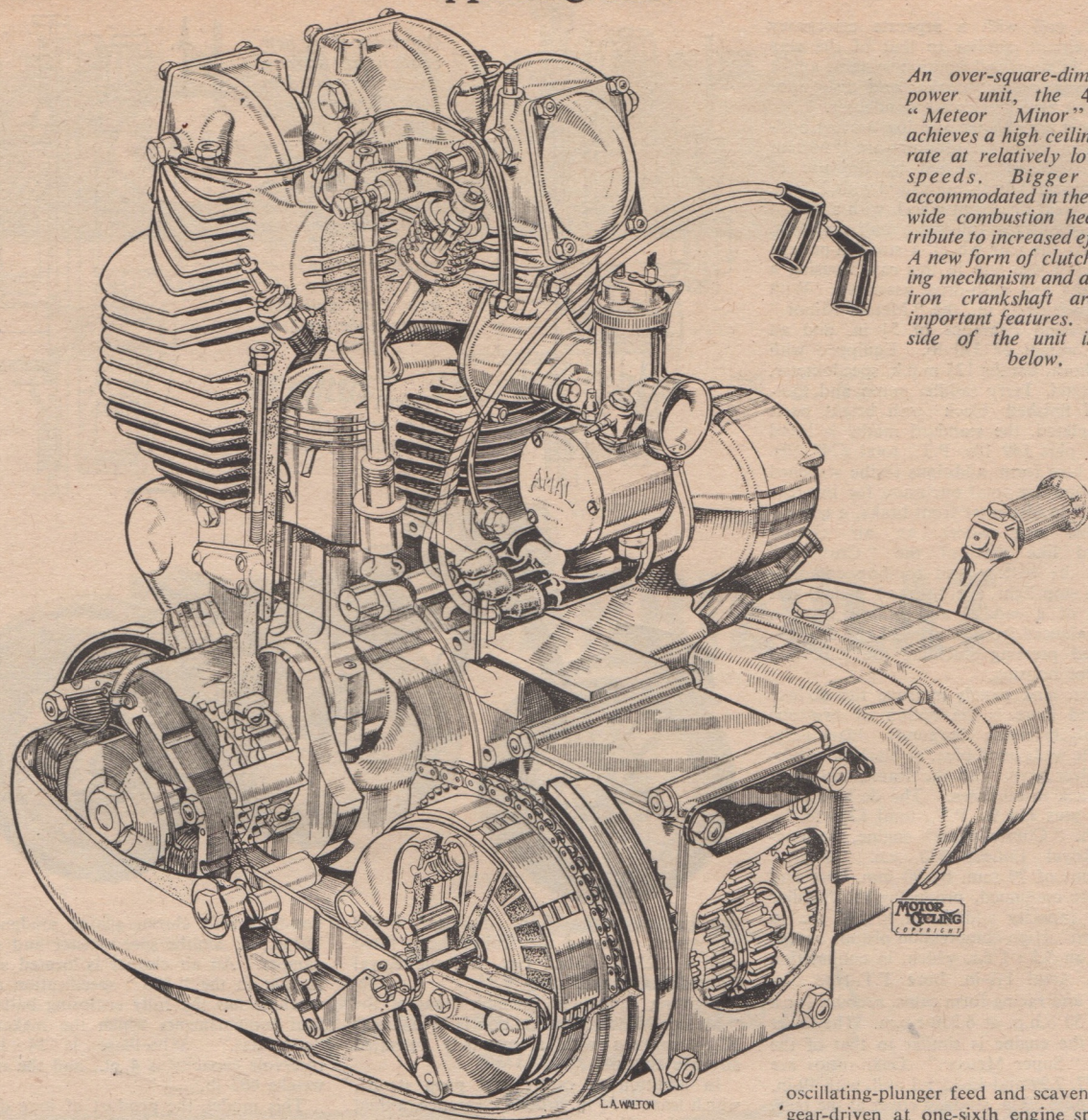
General lighting equipment also is shared. It comprises a Lucas RM13 6v. A.C./D.C. set, with the headlamp and twin pilot lamps carried in the fork-top "casquette." Transmission details, including the use of a

duplex chain primary drive to the clutch and new clutch-operating mechanism, are also common to both models.

But power-unit details are divergent. In the "Meteor Minor" engine the "over-square" principle of bore-and-stroke dimensions adopted for the "Crusader" is again followed. Measurements are 70 mm. by 64.6 mm., producing a total swept volume



De-luxe version of the 500 c.c. "Meteor Minor;" 17-in. wheels provide a low riding position. Power curve of the engine is on the left.

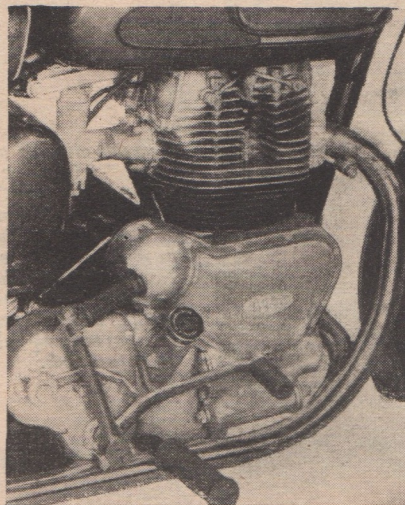


An over-square-dimensioned power unit, the 496 c.c. "Meteor Minor" engine achieves a high ceiling r.p.m. rate at relatively low piston speeds. Bigger valves accommodated in the 70-mm. wide combustion heads contribute to increased efficiency. A new form of clutch-operating mechanism and a nodular iron crankshaft are other important features. The off-side of the unit is shown below.

of 496 c.c. Advantage is taken of the 70-mm. combustion-chamber width to employ inlet and exhaust valves larger by $\frac{3}{8}$ in. and $\frac{1}{8}$ in. respectively than those of the previous "500." The compression ratio is 8:1 and an Amal "Monobloc" carburetter is fitted. These factors, combined with the low piston speed/r.p.m. ratio derived from a short-stroke dimension, serve to develop some 30 b.h.p. at 6,250 r.p.m. which, for practical purposes, and with 4.67, 6.02, 8.42 and 13:1 gear ratios should be translatable into a maximum road speed of more than 90 m.p.h.

Light-alloy connecting-rods bear on split-shell liner big-end bearings in which the journals are ground on a one-piece nodular-iron crankshaft. Main-shaft support is by ball-journal drive-side and roller-journal timing-side bearings.

High-level camshafts, with modified cam profiles, are chain-driven. This follows earlier "500" twin practice; so, too, does the dry-sump lubrication system operated by



oscillating-plunger feed and scavenge pumps, gear-driven at one-sixth engine speed.

The new clutch is a "Klingerite"-insert multi-plate component operated by a unit housing six coil springs and mounted concentrically with the gearbox mainshaft. The outer plate of the unit has a fixed location, but the inboard plate is free and normally faces up against the No. 1 driven friction ring. This side of the unit, in fact, operates as a powerful pressure plate. Carried in the centre of the unit are double-ball thrust bearings, the journals housing a pressure-plate axle shaft which floats in the outer-plate bearing and extends to a four-ball-cam mechanism and operating lever. With the pulling back of the lever, the camplates ride out of location with the balls, separating, withdrawing the axle shaft, and causing the driving and driven plates to part for declutching. As previously, the gear-change is foot-operated; the positive neutral selector is retained and final drive is by $\frac{3}{8}$ -in.-pitch simple chain.

"Meteor Minor" ignition derives primary D.C. from the rectified generator output and battery. Equipment includes a

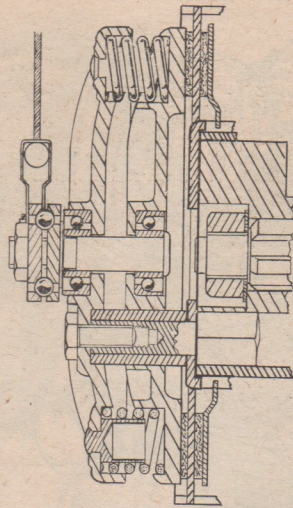
6v. H.T. coil with a separate emergency starting circuit, similar to that of the very efficient "Crusader" ignition system, and a chain-driven contact-breaker and distributor unit which also houses the condenser.

Compact appearance and low seating position—29 in. from the ground—are "Meteor Minor" features obtained by the use of 17-in.-diameter wheels both shod with 3.25-in. Dunlop tyres. The front wheel, with a ribbed cover, embodies a full-width hub and 6-in. brake. At the rear wheel, a studded-pattern tyre is used, the hub in this case housing a 7-in. brake and cush-drive assembly. With a wheelbase of 53 in., the "Meteor Minor" has a ground clearance of 5½ in. and an unladen weight of 370 lb. Equipped with electric horn, Smiths 125 m.p.h. speedometer, centre stand, Terry saddle, pump and toolkit, and finished black with bright parts chrome-plated, the standard model is listed at £200, plus £49 10s. P.T., total £249 10s.

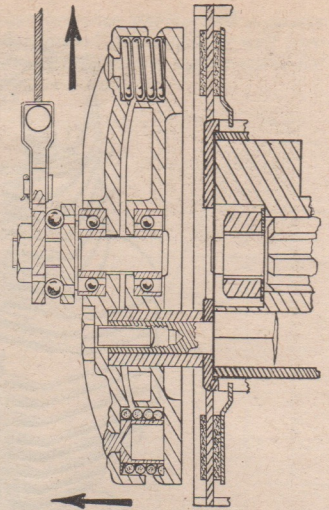
In de luxe form, additions to the standard specification are total enclosure for the rear chain, a 7-in.-diameter front brake, a quickly detachable rear wheel, an air cleaner (mounted like that of the "Crusader" between the battery and toolbox compartment), a stop light, a prop-stand, a dual seat (instead of a saddle) and pillion rests, a deeply valanced front mudguard and a black-enamelled pressing shielding the C.B. and distributor housing.

Chrome tank panels improve the de-luxe finish and there is the option of two-tone black/polychromatic burgundy, black/polychromatic wedgwood blue, or black/polychromatic silver grey, with the frame and front forks black in all cases. The de luxe price is £220, plus £54 9s. P.T., total £274 9s.

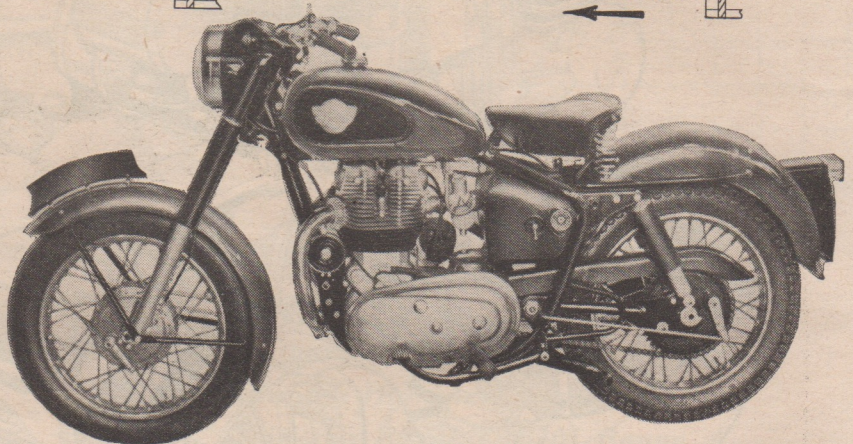
For the "Constellation" engine, the long-used Royal Enfield 350 c.c. "single" dimensions of 70 mm. by 90 mm. bore and stroke are continued, producing the familiar 346 c.c. capacity adding up to 692 c.c. in twin form. High-compression pistons contribute to an 8.5 : 1 c.r. which, in conjunction with an Amal 1¾-in. bore T.T.-type carburettor and racing-form cams, account for a claimed 50 b.h.p. at 6,250 r.p.m. The lower half of the engine is similar to that of the existing "Super Meteor." Gear ratios are 4.44, 5.77, 7.99 and 12.35 : 1 and, with 19-in. wheels and 3.50-in. studded cover at the rear, road speeds of well over 100 m.p.h. are possible. The rear wheel, which is quickly



Operation of the new clutch actuating mechanism fitted to both "Constellation" and "Meteor Minor" is shown in these two sectional drawings. On the left, the clutch is engaged. On the right, the ball-cam mechanism adjacent to the operating lever has withdrawn and disengaged the pressure plate.



(Below) The "Meteor Minor" in its standard form.



detachable, carries 7-in. diameter brake equipment, whereas the front wheel, fitted with a 3.25-in. ribbed tyre, has the Royal Enfield dual brake.

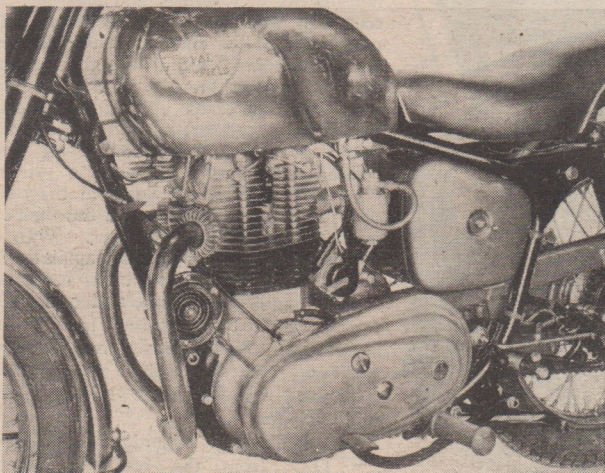
Lighting equipment resembles that of the "Meteor Minor," but ignition is by a Lucas K2F magneto with a manually operated advance control.

In addition to centre and prop stands, which leave a 5½ in. ground clearance, a dual seat with a 31-in. unladen height and pillion rests, "Constellation" equipment is to sports

standard with chrome-plated mudguards, a 150-m.p.h. Smiths speedometer and steering damper. An air cleaner is located similarly to that in the "500" specification and the machine has the fully enclosing battery and tool compartments which the makers term "compacts." Wheelbase is 54 in., oil reservoir capacity is 4 pt., and the machine weighs 403 lb.

This model, the product of long development with the "Super Meteor" as the basis, becomes an addition to the small but select group of over-500 c.c. British-made "twins" designed to offer a near race-speed performance with flexibility throughout the range, a docile bottom-end character and road-going equipment. The "Constellation" is designed as an all-purpose machine for the enthusiast, particularly suitable for holiday touring on roads of the German *Autobahn* type or American turnpike highway. Alternatively, it can be used purely and simply for sport and in this connection the power unit, which has been in production for some time for overseas users, has earned a good reputation, particularly in the United States.

A polychromatic burgundy panel crowns the handsome 4½-gal. fuel tank, which also carries the makers' decorative name motif, and the "compacts" are similarly finished. The remainder of the machine is finished in black and chrome—altogether a smart sports model of great promise for a basic price of £236 9s. 6d., plus £58 10s. 6d. P.T., total £295.



Nearside close-up of the 700 c.c. "Constellation," showing installation of the engine in the new-type frame. Noteworthy are the position of the rectifier and the knee recesses in the 4½-gal. fuel tank.