

The rear wheel and brake fitted with no alteration. The front wheel we decided, needed twin brakes. There is now a trials machine in an unroadworthy condition, and the racer has twin 6in. G.T.P. brakes. Tie rods (more garden fence) replace the torque arms normally fitted. The radiator (a cut down 2 speed radiator) required small brackets for fitting. The finishing touches were all then that were required, the ten minute fitting jobs that all take thirty minutes.

Since Ivan Rhodes had supplied some of the parts and carried out the brazing on the frame, he naturally wanted a ride. His chance came on the 19th May (one week before the Vintage Meeting at Cadwell). There was a "twisty sprint" at Packington Park which was ideal for handling trials. It was impossible for us to go but Ivan took the bike with the print machine engine (the racing engine was not complete) installed.

We had instant success with one important aspect of a road racing machine, the handling and braking superb, and came second in the 1,000 c.c. class. The racing engine first ran on 22nd May and we were ready for the Vintage Meeting at Cadwell Park on 25th; but that is another story.

*(Part II to follow)*

## NEW DEVELOPMENTS

*(See centre pages)*

George Silk (Jnr.) and D. Midgelow send the following information regarding the engine development, the exploded drawings of which appear on our centre pages.

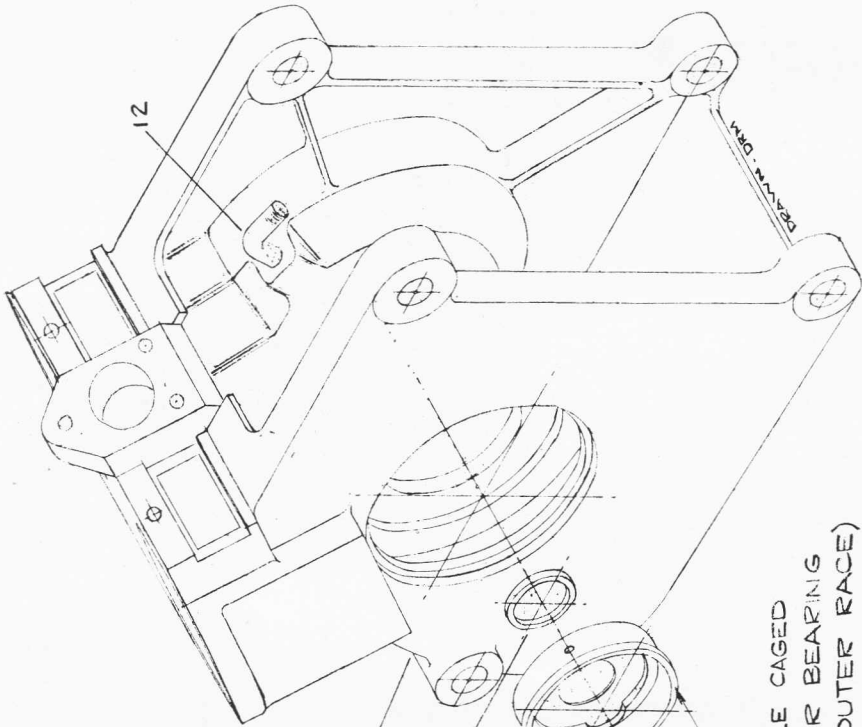
"The crankshaft has been tested to the limit (6,000 r.p.m.) throughout this racing season, even to the extent of "hydraulic" a blind head block in two. This requires  $9\frac{3}{4}$  tons. We feel under these conditions a Scott crank might have dropped in half. However, the assembly has passed the test with flying colours and as a result the cranks are now available to order (delivery 10 to 12 weeks). These take the form of long or short stroke, the main bearings and housings fitted, seals and springs, valves, big end bearing (inner) also fitted. Cost as yet is tentatively fixed between £32 and £38 complete and built up to the big ends. New standard (reconditioned) rods and rollers etc. can be supplied. However, the cages still require further development in the realms as to which material to plate them with—as yet copper is not entirely satisfactory. The cages themselves however, have stood up remarkably well to consistent pasting and the fit of the bearings is excellent.

The diaphragm springs which take care of crank shaft end float are very simple in operation. The whole assembly could float .030in. - .040in. In fact the springs are so designed to let it float no more than .005in. either way. In practice the flywheel remains static (floatwise) thus proving the original idea of knife edges and minimum resistance.

What's next? Well already we have race proved our own design of piston, with transfer ports and inlet timing and strength with *lighter* weight. They do have one big bonus—they don't seize!!! Cylinder heads also have gone for a face lift. The effect is phenomenal—10 - 1 c.r. on petrol, a better flame path needless to say they are not Scott type, but very "squish".

As yet they are still in the experimental engine, but work is now under way to incorporate the pistons and heads in a top half conversion which will give a final magic size of 648c.c. If our results with the racing engine are anything to go by, apart from top speed the overall spread of power is quite something. To help out with the non availability of Burgess Silencers we have designed and are making a new type silencer that expands the power between 2,500 r.p.m. - 5,500 r.p.m. and is still quiet, not siamese, two per machine, but cleanable.

# YOUR *Scot* HAS CRANK HANGOVER?



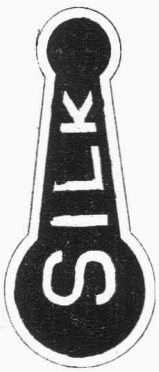
10 SYNTHETIC RUBBER SEAL

7 STRENGTHENED CRANK DISK

REPLACEABLE CAGED MAIN ROLLER BEARING (SLIDING OUTER RACE)

1 CAGED BIG-END ROLLER BEARING WITH OIL SUPPLY TO BOTH SIDES

SOLE DISTRIBUTOR:-  
WARD MOTORS LTD.,  
59, WILFORD ST.,  
DERBY



CRANKS WILL MINIMISE THE EFFECTS

One regret we do have is that Scott's ever fitted a Pilgrim pump—will answer any comment on this subject, but honestly they don't even work **FLAT OUT**—don't take our word, ask Mike Broadbanks—he carries five spares with him!!!

We are still trying to solve the manufacturing problems concerned with a cam for an hydraulic "Best & Lloyd" type pump which is entirely satisfactory. Using such a pump it is possible to obtain perfect lubrication, and **NO** smoke.

Next year looks just as busy, apart from obtaining a lot more power and r.p.m. from the Vintage Sprint Special that Ivan Rhodes rides. There is an extra light (185lbs.) grass track Scott being assembled for Maurice Patey to ride. That is something else again.

Since the above was written—orders for 6 sets including two complete engines have been received, and a new order for fresh batches of forgings have been placed!

### **THE 648c.c. CONVERSION**

The basic outline is as follows:—

- (a) Aluminium alloy cylinder block with high quality cast iron liner.
- (b) Pistons with transfer ports and altered to vastly improve the overall efficiency top speeds etc.
- (c) Two types of cylinder head:—
  - (1) Air cooled (Finned).
  - (2) Water cooled (as now) but, both with flow designed squish area.

Prices difficult to estimate without knowing just how many to do, but in the region of £45 - £60. This might sound a lot, but it does include all new parts, pistons etc.

Delivery—September 1969.

Will it be worth it? So far we have not tested one but the experimental unit will be raced in "open" competition next year and if the results obtained are in line with the short stroke Vintage motor, then the magic 100 m.p.h. is laughable and an enterprising gent may well do 115 m.p.h. **PLUS**.

If your appetite is whetted—contact G. Silk Jnr. at Ward Motors, 59 Wilfred Street, Derby.

### **COMING SHORTLY !**

In our next issue will be the first of a series of articles by Philip H. Smith, C. Eng. F.I.Mech. E., M.S.A.E., relating to Scott engines. Philip is, of course, well known to older Club members as the author of the "Greatest of All Trials", an account of the Scott Trial, and "The High Speed Two-Stroke Petrol Engine".

All part of our service to assist you to **PARTICIPATE !**

**BACK NUMBERS**—in stock 1963 (August) to date price 3/- per copy. Exploded drawings (Scott engine) 1/6d. and copies of Cartoon Service Sheets 2/6d. From H. Beal—prices include postage.