

The J.E.S. Lightweight.—

A body is connected to the inlet pipe petrol pipe having a small hole drilled from the petrol union to an inner conical seat. On this seat rests the correspondingly coned face of an inner barrel. This barrel is capable of rotation but not of vertical motion, and in the coned seat is a jet hole with a tapering groove, which registers with the hole already mentioned in the main body. The inner barrel also carries a snifting valve in the lower part.

Inside again lies a barrel throttle moving vertically and controlled by a Bowden cable. The throttle barrel, which is prevented from rotation by a fixing screw on the outside of the body, is con-

nected to the inner barrel by means of a boss moving in an inclined slot, thus when the throttle is raised so as to give more gas the barrel is slightly rotated and the groove controlling the petrol flow is enlarged, and at the same time increasing engine suction raises the snifting valve and allows more air to pass.

Mr. Smith gave us an extraordinary demonstration of a standard carburetter on test, and proved that even after a long run at dead slow speed the engine would respond instantly to throttle opening.

The J.E.S. engine set can be supplied for the conversion of a pedal cycle at twenty-three guineas, but it must be understood that slight structural altera-

tions to the frame will be necessary; the complete mount, with $26 \times 1\frac{1}{2}$ in. tyres, costs thirty-eight guineas.

Perhaps our one criticism of this practical little vehicle is that it follows cycle lines rather too closely from the point of view of appearance, and this may be answered by the fact that the extra weight and cost which would be necessary to replace the pedalling gear by a gear box or larger engine would spoil the proposition.

In conclusion, our readers should remember that the J.E.S. has ten years' experience to back it, and that the latest model is further advanced as regards power units than many larger machines.

A**56 lb. SCOOTER**

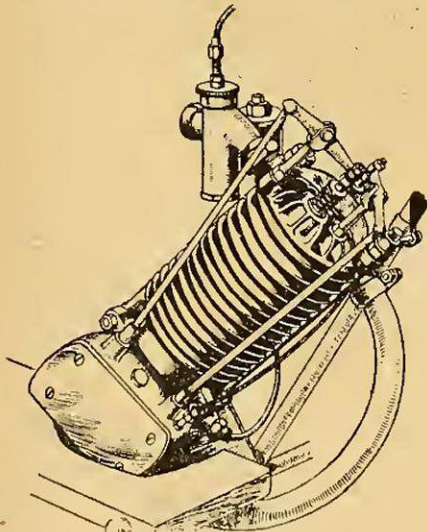
55 × 60 mm. Four-stroke Engine with Overhead Valves and Detachable Head.

It may be recalled that in our issue for June 5th, 1919, we illustrated and described the scooter built privately by Capt. Smith Clarke, of Kenilworth. The design of this machine has been adopted by Messrs. Booth Bros., of Bishop Street, Coventry, who will enter the scooter market immediately with the Kenilworth scooter.

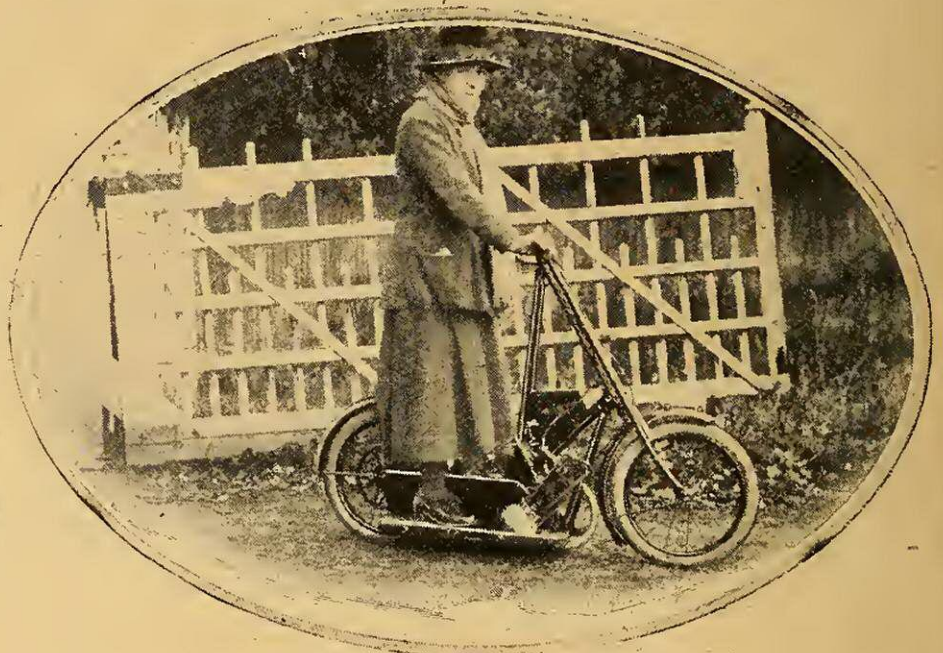
Most of the features of the Smith Clarke have been retained, the modifications being merely the fitting of a four-stroke engine with mechanically-operated inlet valve in place of the old Clement engine used by Capt. Smith Clarke, and the adoption of smaller wheels.

Frame Construction.

Probably the frame design and construction is the simplest of any type of two-wheeled vehicle. There are very few brazed joints, and these are confined to the head and front fork. The frame may be said to consist of two steel plates,



An overhead valve engine is fitted to the Kenilworth scooter.



The Kenilworth scooter on the road.

six detachable tubes, and steering head. The last mentioned is a long tube having a lug at each end, which closely resembles the seat-pillar lug of a lady's pedal cycle. To these are fixed, by bolts, the six tubes connecting the head to the two steel plates forming the "chassis." These latter are connected by long bolts having tubular distance pieces.

The fork consists of two long tubes curved at the lower end, carried right up to the handle-bar and connected to the steering column by a long bolt.

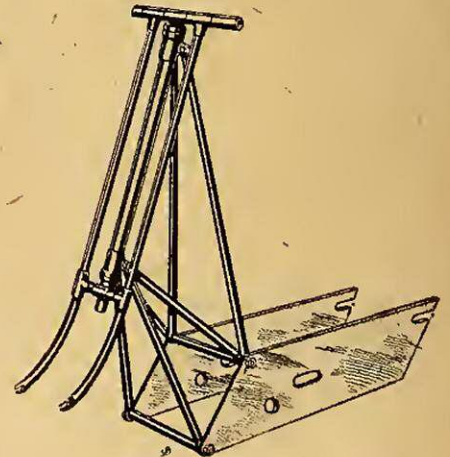
The Transmission.

On the outside of the right side plate of the frame the engine is attached by means of bolts, the flywheel being between the two plates and the magneto on the outside of the left plate. The flywheel carries a V pulley, from which the primary drive is taken to a countershaft by means of a $\frac{1}{2}$ in. Whittle belt. This countershaft takes the form of a hub which is carried in slots in the plates for the purpose of chain and belt adjustment. From the countershaft the drive is by chain to the rear wheel.

The engine is a neat little unit having a detachable head to its cast iron cylinder and an aluminium crank case. The push rods operating the overhead valves are

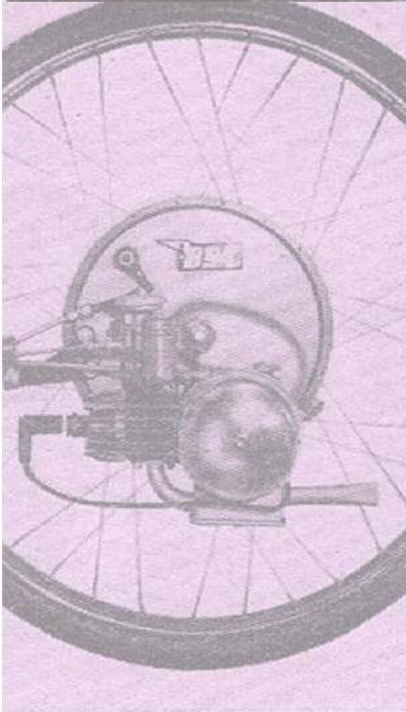
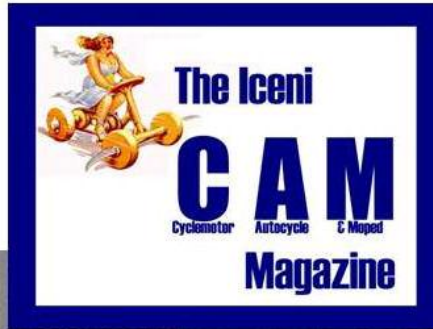
set at an angle, and are actuated by a single half-time wheel having two cams.

18×2 in. wheels, 4 in. mudguards amply valanced, single lever carburetter, Runbaken magneto and two brakes are included in the specification and the machine finished in all black. The price is forty-two guineas.



No brazed joints are used except on the steering column.

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