

JANUARY 22ND, 1920.



AND FOR OVER SIX YEARS

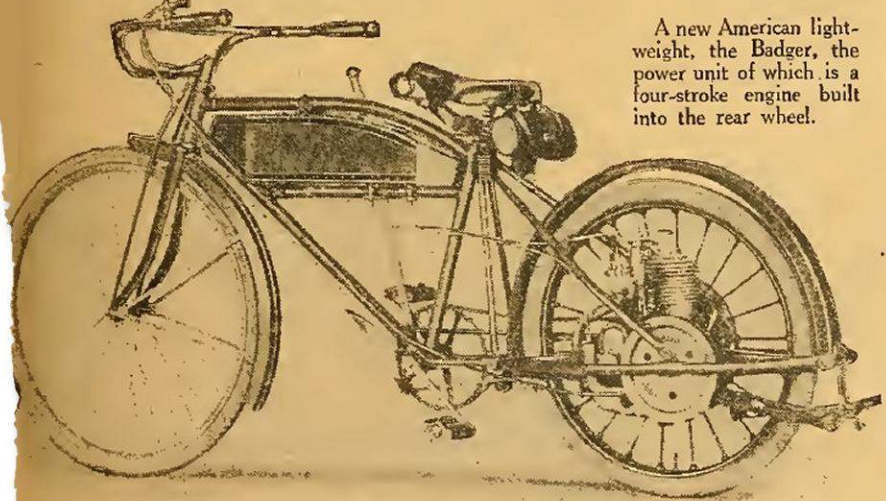
An American Lightweight.

A Motor-assisted Bicycle weighing 126 lb.

ANY years ago the Singer Co. introduced a motor cycle which had the power unit in the back wheel of the machine, and only recently we saw one of these in service. From time to time the same idea has been followed in paper designs both in this country and the U.S.A., but very few have been placed

upon the market. The Badger, however, is one of the few, and is intended as an ultra lightweight motor cycle, a combination of the motor-assisted pedal cycle and the pedal-assisted motor cycle. Its weight is 126 lb.—not an ultra-lightweight according to the English view, but in America, where 600 c.c. machines are termed lightweights, no doubt it is regarded as something particularly light.

The engine has a bore and stroke of 62 and 56 mm. respectively, and is of the four-stroke type, having an overhead inlet valve. It is built up as a unit with the rear wheel, which is of slightly smaller diameter than the front wheel, and is contained in a detachable frame.



A new American lightweight, the Badger, the power unit of which is a four-stroke engine built into the rear wheel.



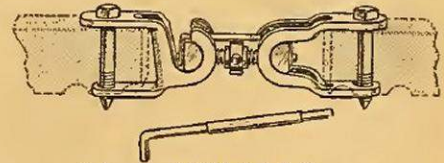
Catalogue number *BAD00*
Price code *A*
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change speed operating rod.

The spokes of this wheel are tubular, and altogether the machine gives one the impression that it is a composite, adapted from the main parts of the several pedal cycles which in America are built in imitation of the motor cycle, and a motor wheel of the Merkel type.

A GOOD BELT FASTENER.

Although adjustable belt fasteners are not new, there are very few made these days, and there is no denying that they have very decided advantages, especially on countershaft machines, where lack of correct tension causes belt slip. With the R. and H. belt fastener the belt need not be removed to increase or decrease



Roberts and Hibbs's belt fastener.

the tension; a small "tommy bar" is inserted in a hole in the central screw member, and the belt is tightened or slackened as required. The fastener is instantly detachable, having a hook member screwed to one end of the belt. It is made in $\frac{3}{4}$ in., $\frac{7}{8}$ in., and 1 in. sizes, and sells at 2s. complete. The makers are Messrs. Roberts and Hibbs, Bank Street Works, Fanfield Road, Droylesden, Manchester, who, incidentally, make the New Scale motor cycle.