121,268

PATENT SPECIFICATION

Application Date, Oct. 8, 1918. No. 16,389/18.

Complete Accepted, Dec. 12, 1918.

COMPLETE SPECIFICATION.

Improvements in and relating to Friction Driving Gear.

I, ARTHUR GEORGE GRICE, of Cordwalles Works, Maidenhead, in the County of Berks, Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to the well-known type of driving gear in which the rim of a flywheel or the like is pressed against the face of a disc rotating about an axis at right angles to that of the flywheel. In such gears the radial distance of the point of contact of the wheel and disc from the axis of the latter is often made variable so as to give a variable speed ratio of the two shafts. In a well-known form of such variable driving gear, the contact surface on the flywheel is provided by a driving ring of material having a suitably large co-efficient of frictional grip, and which is detachably fastened to the flywheel.

I find that some soft materials (for example, cork), have a higher co-efficient of grip than the relatively harder comparatively unyielding materials (for example, vulcanised fibre) hitherto used for the driving ring, and therefore when used for driving rings, require less pressure to be exerted on the disc to transmit the drive without slipping. On the other hand, a driving ring made of soft material requires more care in fastening it to the flywheel in order that initial distortion due to such fastening shall not induce unduly rapid wear at the surface in friction contact with the disc.

The present invention consists in a composite driving ring for a friction driving gear of the disc and wheel type made up of alternate layers of a soft material having a high co-efficient of grip, and of a hard relatively unyielding material.

I append a drawing illustrating my invention as carried out in one form, the drawing being a section of the flywheel rim with the composite driving ring fixed in position.

The composite driving ring is made up of layers 1 of a soft material having a high co-efficient of grip (for example, cork) and of alternating layers 2 of a harder less yielding material (for example, vulcanised fibre). The composite ring is fastened to the flywheel by being clamped between the flange 3 of the flywheel rim and the detachable metal ring 4, by the usual means of the bolts 6 which pass through holes in the said parts and the nuts 7. When pressure is applied by screwing up the nuts 7, the peripheries of the layers 1 of softer material project very slightly beyond those of the intermediate layers 2. When pressure is applied between the disc and flywheel, both sets of layers 1 and 2 make contact with the disc.

The number and thickness of the two sets of layers may be varied within

wide limits. I find that two comparatively thick layers of cork and a middle layer of vulcanised fibre with or without two outer layers of fibre affords good results.

The various layers may be cemented or otherwise fastened together, in order that the composite driving ring may be handled as one piece when fitting it to the flywheel.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

A composite driving ring for a friction driving gear of the disc-and-wheel type made up of alternate layers of a soft material having a high co-efficient of grip and of a hard relatively unyielding material.

Dated this 8th day of October, 1918.

MARKS & CLERK.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1918.