

Where Chain Wheels and Cranks come from.

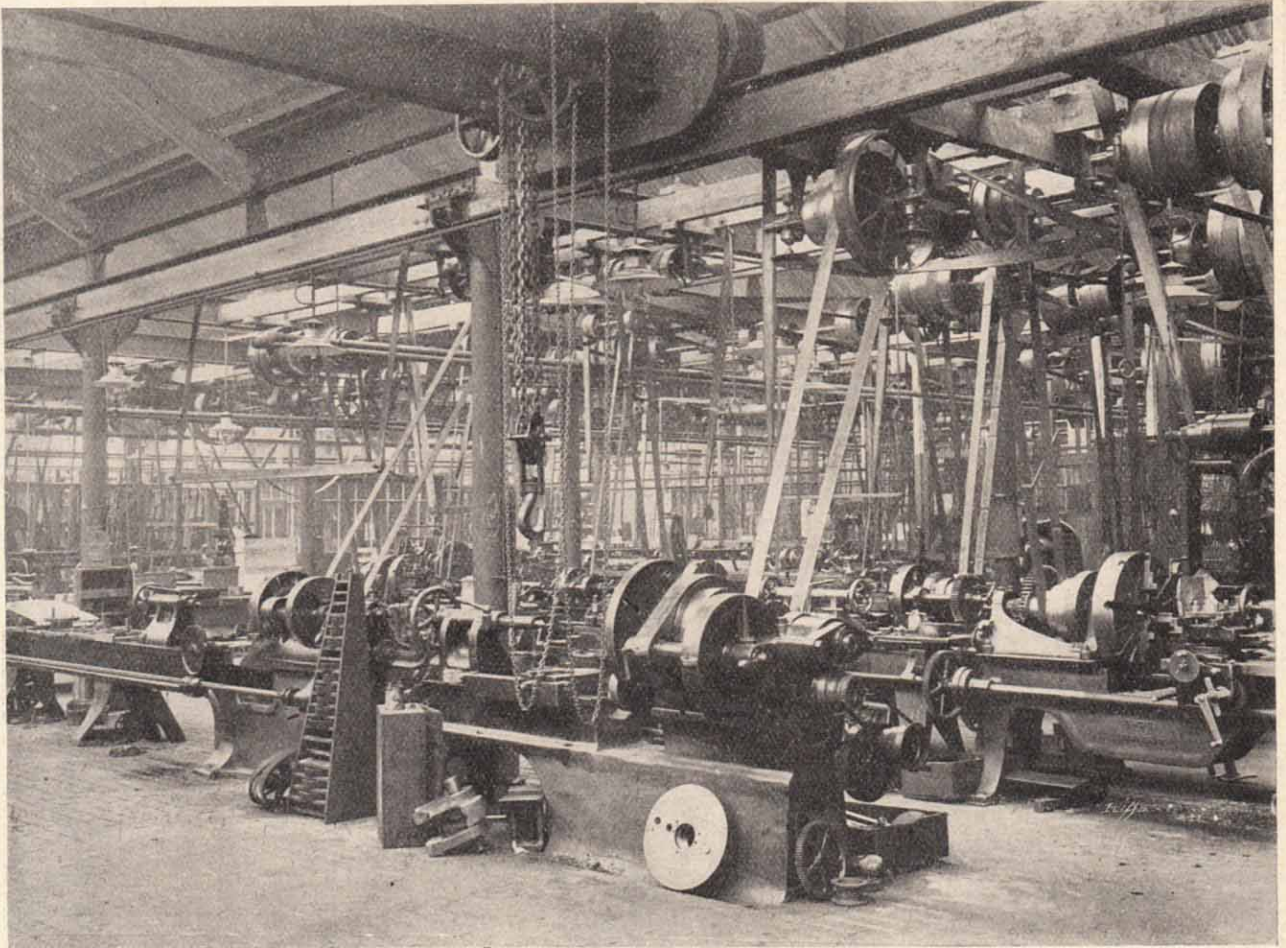
A Mammoth Producing Concern.

THE business and productions of E. Williams, Benson Works, Foundry Lane, Birmingham, are well known to our readers as comprising probably one of the earliest, if not the first, among specialists in chain wheels and cranks for cycles. Mr. Williams' name came early into prominence because of his inaugurating a system of mounting the

name has come into greater prominence owing to his unique method for cold rolling of flanged chain-wheels from mild sheet steel. This, too,

has been largely adopted

under license by several prominent cycle and fittings manufacturers. Briefly described, the system consists of stamping out the sheet steel blanks under power



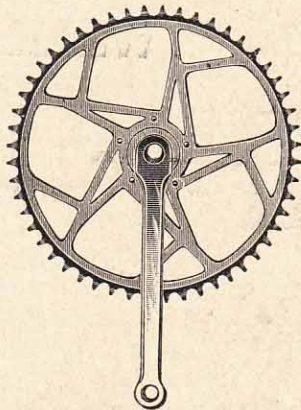
A Corner in the Williams' Machine Room.

chain wheels to the cranks, as well as in the detachable variety the arms to the cranks. This consists in providing serrations or teeth at the bosses of either the wheels or their connecting-arms, and corresponding to the external faces of the projecting boss of the wheel crank. The superiority and durability of this style of mounting have so proved their value as almost to have superseded all other methods of attaching chain wheels to cranks. During the past four years Mr. Williams'

presses, punching out the central hole, and then securing each between a special double disc clamp mounted on extension shafts, and dropping them into the open journals of a special machine.

The edge portion of the blank is passed under a wide hardened steel roller, the centre portion of which is grooved to the shape and section of the chain teeth. The blank is fed up to the groove, into which it is forced at high pressure as both revolve, and, as the

discs are somewhat thicker than the groove, the pressure and rolling forces the surplus metal into the form of a flange, and thus produces both the flange and teeth blank in a solid piece from the thin disc. The various registered designs of arms are then formed by pressing and punching out the intervening metal,



A Williams' Crank and Chain Wheel.

with the result that a sharply-defined and clean wheel is formed, ready for the gear-cutting department.

Originally established in Benson Road, the rapid development and success of Mr. Williams' system of chain wheel production has enabled him to have built a

modern and, we may say, model ground floor factory, which covers a considerable ground area. The factory is fitted up throughout with the latest types of power presses of exceptional strength, lathes, drilling machines, and

a gear cutting plant,

the latter including the latest German types of gear hobbing machines. In the latter the teeth of the gear wheels after cutting are hobbled in rotation to their correct form and shape. This applies to ordinary gear wheels, such as the change wheels of lathes and similar work of the kind, all of which the firm undertake, in addition to their chain wheel and crank making. It is hardly necessary to add with such methods and so splendid an equipment in tools, the work wrought is throughout of a high-class character.

Some idea of the extent and equipment of these premises may be gathered from the larger of our illustrations. Among the many registered and other designs of chain wheels manufactured by Mr. Williams, a number of which are exclusively made to the orders of noted cycle manufacturers, is the model illustrated, which is known as the B109. This is one of three special designs for the forthcoming 1907 season, and, in conjunction with bevel-edged cranks, its manufacture will form a very large proportion of the firm's output. To increase the latter facilities, a fine long building is in course of erection. This will constitute the polishing and plating shop.

Stanley Feast's Special Show Offer.

MOST of the members of the trade will doubtless remember the constant crowd there was last Stanley Show at the stand of Stanley Feast and Co., Ltd., that enterprising firm of cycle and motor accessory manufacturers. This was hardly to be wondered at, seeing that they were presenting to every agent a really splendid brief bag in exchange for their

the idea naturally being to bring the agents to the stand to see their novelties for the coming season.

Those agents who have not the necessary number of coupons can place an order at the stand for the amount they are short.

The firm's advertisement, with full particulars, appears in this issue, and we should advise this being



coupons. Hundreds were given away, and were so much appreciated that the firm have decided to go one better this Show, and to present to every agent who personally presents eighty shillings worth of coupons a beautifully-finished silver or gilt-mounted umbrella, as illustrated, either lady's or gentleman's pattern.

This is, indeed, a splendid offer, and we advise all agents to take advantage of their generosity.

There are a few points, however, agents should pay particular attention to, such as the offer being limited to one umbrella to each agent, and that personal application with the coupons and trade card must be made,

cut out and kept for reference, as failure to follow the conditions will lead to disappointment.

Messrs. Porter Bros. have removed to larger premises at 158, Waterloo Street, Burton-on-Trent. Will the trade please note.

The Maharaja Cycle Works, of Commercial Buildings, Lahore, India, are in want of "1907" catalogues, prices, and show-cards. This firm do a very large business in cycles, motors, and accessories.

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