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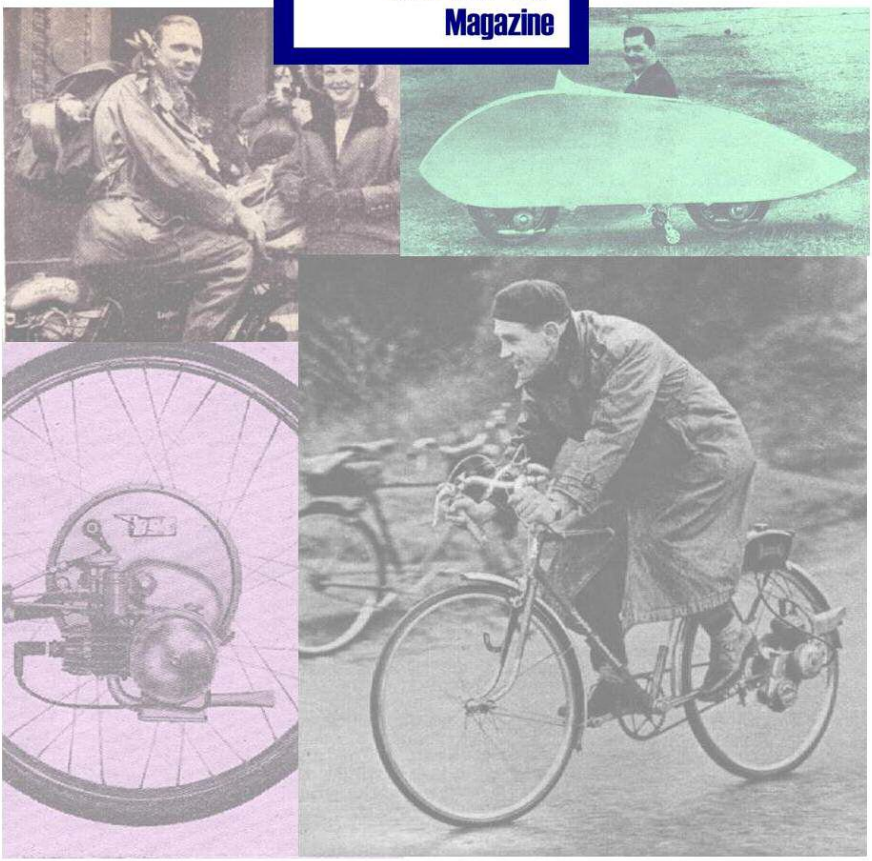

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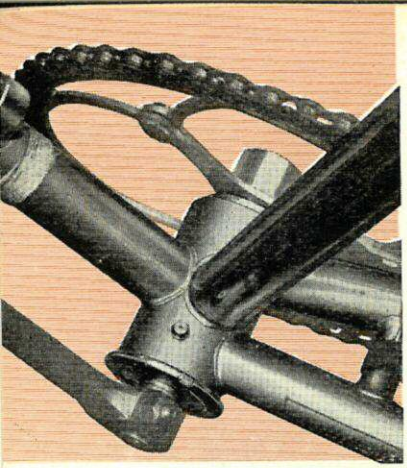


Butt-Welded Bicycle

New Dayton model to be shown at the Cycle and Motor Cycle Show

A BRITISH lightweight bicycle with main joints butt-welded under electronic control is being manufactured by the Dayton Cycle Co. Ltd., Park Royal Road, London, N.W.10.

Welds of this nature were envisaged several years ago, since when much research and many experiments have been carried out by F. S. Durman, joint managing director of the Dayton Cycle Co., and his staff. All difficulties created by this method of welding cycle tubes have been successfully overcome, special and elaborate plant costing several thousands of pounds has been installed, and everything at the factory is ready for full-scale production. Models will be exhibited at the forthcoming Cycle and Motor Cycle Show at Earl's Court.

The equipment installed at the Park Royal factory consists of a butt-welding machine which holds a shaped tube against

The new butt-welded Dayton sports machine has the appearance of extreme lightness and speed

its fellow. An electric current is then passed through the tubes heating them to fusing temperature, at which stage welding takes place. The tubing is left to cool, and the result is a joint that is both neat and clean.

In all, seven butt-welds are made in the assembly of a cycle frame, and Dayton's estimate an overall time of only 4½ min for each frame. It is essential, of course, that the tubes are carefully prepared and shaped, while special welding dies have had to be developed for all joints.

This system has a number of advantages over the old that are immediately apparent. Lugs are not necessary, there are no fitting troubles, and fancy lug filing is obviated. One-inch tubing is used for all main members, which means economy in buying and stocking of tubing.

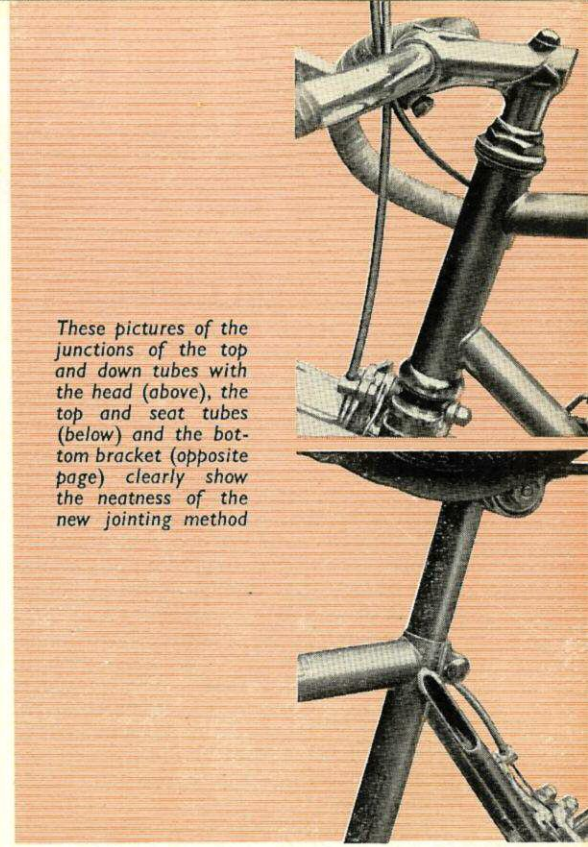
Even greater economies result in the finishing shop. This type of welding leaves the joint so clean that sand blasting, filing and polishing are entirely eliminated. Frames can be passed direct to the enamelling shop, making a very considerable saving over other jointing methods.

Absence of head, seat and bracket lug sets gives the new Dayton machine a somewhat unfamiliar look. Where the tubes join there is a slight outward spread, but this is so smooth and uniform that it in no way detracts from the general appearance. Rather does it tend to give the machine sleeker and more pleasing lines.

Severe bending, breaking and vibration tests have been carried out over a long period, and so confident is Mr. Durman in the future of this method of welding that he is anxious to apply it to as many of his firm's models as possible.

Production is automatic and merely a matter of operating a series of switches in correct order. Once the machine is set for a particular kind of joint, several thousand tubes can be welded without further adjustment.

Harold Briercliffe, a member of the staff of our associate journal, *The Motor Cycle and Cycle Trader*, recently tested one of the new machines, the specification of which included a 22-in frame, 73 deg head and 71 deg seat angles, chain gear, alloy mudguards, handlebars and brakes, Dunlop high-pressure rims and tyres, and a Brooks B 17 saddle. He reported using the cycle on all kinds of surfaces over several hundreds of miles, and at the end the joints appeared as firm as when he took the machine from the factory. Despite such extensive use of 1-in tubing the frame was rigid and responsive, enabling long distances to be covered without fatigue.



These pictures of the junctions of the top and down tubes with the head (above), the top and seat tubes (below) and the bottom bracket (opposite page) clearly show the neatness of the new jointing method

Visitor from Hong Kong

ANTHONY RAPTIS, managing director of the British Cycle Co., Hong Kong, recently visited leading cycle manufacturers during his first trip to England. Although only 23 years of age, he has successfully rebuilt his company's business since the Japanese occupation ended. Among the works he saw were those of J. A. Phillips and B.S.A.