

MITCHELL'S PATENT REVERSING GEAR.

For Machines Driven in Two Directions.

When the British Westinghouse Electric and Manufacturing Company's plant at Manchester, England, commenced operations in 1902, the large planers were fitted with electric drives, and magnetic clutches for reversing. It was soon found, however, that whilst this method of reversing was simple, and in some respects effective, it was far from ideal, in fact, was a "constant source of annoyance and expense to keep running." But this trouble was soon overcome, for the Works Superintendent, W. C. Mitchell—one

In addition, two jockey pulleys, J_1 and J_2 are brought into play in alternately tightening and loosening the belts running on P_1 and P_2 respectively. The jockey pulleys are actuated either mechanically or pneumatically, both processes giving equally satisfactory results. In the accompanying diagram "W" represents the pneumatic apparatus, which is controlled by the table stops and connected by levers to the supporting arms of the jockey pulleys. In the operation of the planer, the table dogs regulate an air valve which ad-

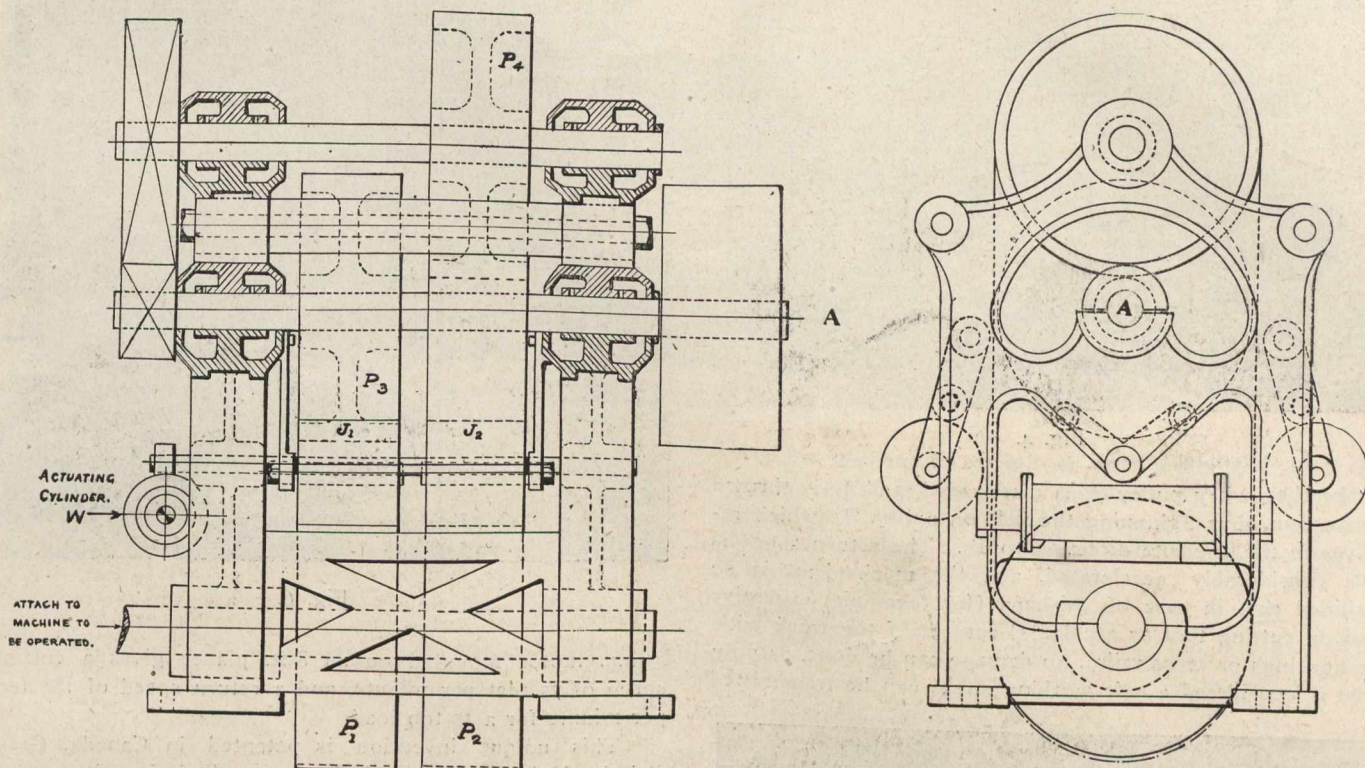


Fig. 1.—Diagram of Reversing Mechanism.

of the best practical mechanics that ever set foot in a machine shop,—invented a device which has reduced the maintenance of all the planers in the Trafford Park works, to a "negligible quantity." One of the chief advantages of this mechanical drive is, that a comparatively small constant speed motor can be used, since there is no starting or stopping as in the case of some recent electric drives.

The reversing mechanism is shown diagrammatically in Fig. 1, where "A" represents the shaft carrying the pinion

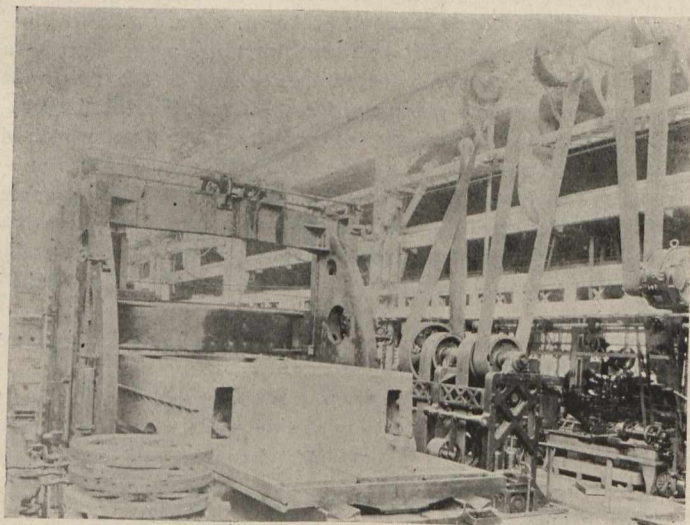


Fig. 2.

driving the machine. This pinion engages in an overhead gear turning a countershaft, on which is keyed pulley P_4 , having belt, driving pulley P_2 in one direction; while pulley P_3 keyed on driving shaft "A," drives by belt, pulley P_1 , in the opposite direction to P_2 .

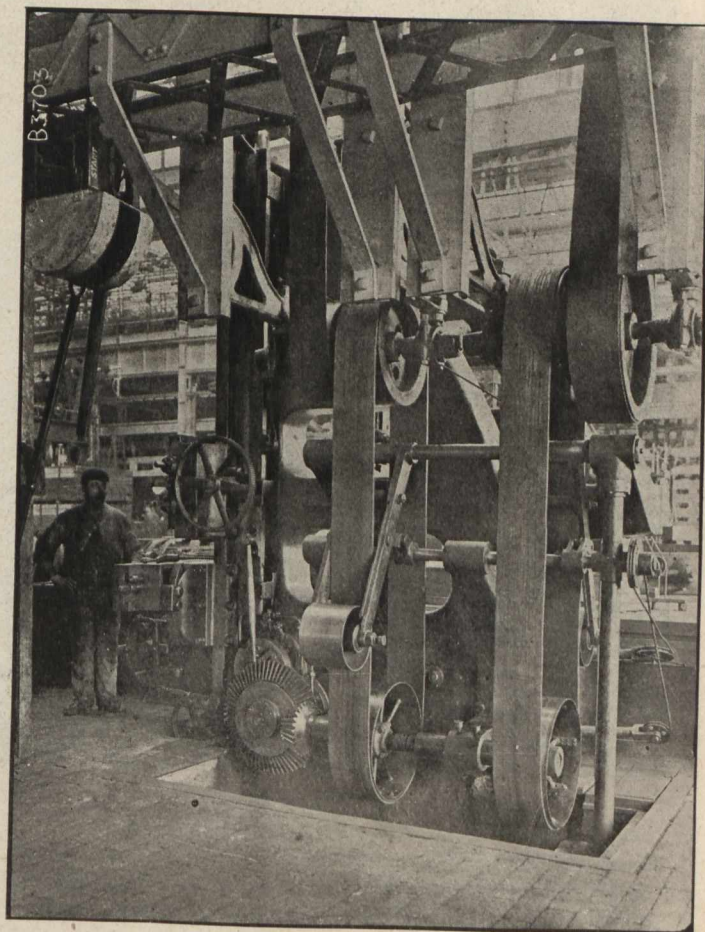


Fig. 3.