

Broom Assembly Mechanism

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Abstract: *This project presents the design and development of a pedal-operated broom assembly mechanism capable of assembling six brooms simultaneously. The primary objective is to enhance production efficiency and reduce manual labor in small-scale broom manufacturing units. The mechanism is manually operated using a foot pedal, which drives a system of linkages and fixtures that securely hold and bind broom sticks and bristles in place. This innovative approach eliminates the need for electricity, making it ideal for rural and low-resource environments. The simultaneous assembly of six brooms significantly reduces production time and increases output consistency. The system is designed to be user-friendly, cost-effective, and environmentally sustainable, providing a practical solution for improving productivity in the broom-making industry.*

Keywords: Pedal-operated mechanism, broom assembly, manual manufacturing, multi-unit assembly, ergonomic design, rural technology, sustainable production, low-cost machinery, small-scale industry, mechanical linkage, simultaneous assembly, productivity enhancement

