State Award – Bihar

Iron Bar Cutting and Bending Machine

Jalendra Kumar
Nawada, Bihar
Scout: Direct

A school dropout, Jalendra Kumar (32) is a fabricator and has had a keen interest in improvising machines and gadgets since childhood. After learning basic fabrication from his father, he moved to Delhi to get some experience and save money for his workshop. After a few years, he returned and opened his workshop and started the fabrication of door gates, vehicle trolleys, and different small agriculture implements like threshers, winnowers etc.

Jalendra gets orders for different kinds of machinery from his clients. But his margins are low, so he faces many problems undertaking tasks without cutting into his profits. Labour has been one big issue for him. This makes him think continuously about developing machines that could help him at work. Generally, fabricators use cut-off saw/chop saw to cut iron bars. In this process, the abrasive cutting wheel needs to be changed after heavy use. Loud noise is also another issue during the cutting operation. These issues made him think about developing an improved cutting cum bending machine.

This machine is electrically operated and has a 1hp motor for cutting and bending operations. The machine can cut an iron bar of 10 mm diameter in 5 sec. The iron bar is easily sheared when a sharp-edged cutting tool is applied at heavy pressure. The bending operation is similar to cutting, but adie helps bend the metal in the former. A fabric belt connecting the rolling shutter spring and hollow cylindrical bar helps the cutter and other movable elements return to their respective positions. The machine cuts/bends the work piece precisely and does not produce any significant noise during its operation.