Consolation award

Automatic Cup Hanger Making Machine for Rubber Plantation

Mohan Kumar, G.S
Kollam (Quilon), Kerala
Scout: Direct Entry

Mohan Kumar (55) is an innovative technician. His skill lies in designing and developing tailor-made components to make his machines. He has tinkered with watches, radios, televisions, and cameras and has even made and installed elevators at commercial and household levels.

A few years back, while talking with one of his friends, a wholesale dealer of rubber collection cup hangers, Mohan learned that the cup hangers for tapping rubber latex were manually made. As a result, no two cups were precisely the same, and some failed while the rubber was being tapped due to the latex flow. After an effort of a few months, he developed a machine that could automatically make cup hangers. Powered by a one hp 15000 rpm motor, the machine can produce 1200 cup hangers in an hour.

The main advantage of the cup hanger made by the machine is that it has more stiffness and resists bending due to latex flow over the bowl. The cup hanger acts as a cantilever beam with a uniformly distributed load initially and a uniformly varying load when the bowl gets filled with latex. The cup hanger material is galvanized iron wire of 3mm diameter/11-gauge size. The machine can count the number of cup hangers it makes and has a clutch system to stop the machine manually.