Automatic Machine for sharpening / resharpening of CTC Tea rollers.

a) Name of the Project Leader / Co-ordinator: U. Datta / N. P. Mukherjee

b) Total project cost: Rs. 16.7 lakhs

c) Brief write up including salient features, benefits, applications etc.:

For manufacture of CTC tea, after withering, which involves moisture removal up to the required level, tea leaf is put into CTC machine. CTC rollers are basically a pair of rollers running with different speed in close proximity to process the withered leaf. Each roller consists of circular and helical grooves, machined by two different operations in two different machine. Thus the rollers are grooved in fine geometrical regularity at their surfaces. When the withered tea leaf is put in the gap between such rotating CTC rollers, the resulting product is eventually cut, torn and rolled. After continuous use, the teeth of the rollers undergo wear and deformity and therefore, they need to be resharpened.

Of the two machining operations, the chasing involves cutting equally spaced annular concentric grooves on special purpose lathe. The milling operation involves cutting of equally spaced helical grooves on the surface of the roller

The proposed project relates to design and development of a machine, with automatic operation through PLC, which will perform both chasing and milling operations sequentially in a single set up for sharpening / resharpening of CTC tea rollers. In existing system, these operations take huge time for loading / unloading and machining operations on two different machines. In the proposed machine, with minimum manual operation, better accuracy with high productivity can be achieved.