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A device for climbing a vertical member such as a coconut tree or pole

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Present method of climbing vertical member such as pole or coconut palm is to use a girdle or small loop made out of coconut fiber/leaflets round the climber's ankles to hold/tighten the feet together in order to firmly grip to the vertical tree or pole. Climber has to exhaustively use leg and hand muscles to go up the trunk like a "looper caterpillar" with strain to the spin. This method often results in undesirable skin marks on legs and hands disliked by many.

Hence considering the human fatigue and danger involved in this method of climbing vertical tree or pole, it is essential to introduce an appropriate and simple device to climb tree or vertical pole with adequate safety and less fatigue.

Considering above facts, a manually operated low cost tree climbing device was designed and constructed. It consists of an upper engagement rope ladder and a lower engagement foot supporting unit, which can be opened or closed to respectively engage an upper and lower portion of the vertical member. At least one extension/retraction member is connected to the upper and lower engagement members. The extension/retraction member extends or retracts to vary the distance between the upper and lower engagement members. Two experiments were conducted to evaluate the performance of the designed device. First experiment was conducted in the faculty farm and second was conducted in the coconut plantation after having few modifications to the first prototype. Climbing time per plant and harvesting cost were conceded as criteria for evaluation the device. Farmer opinions are also collected.

The designed coconut climber is a novel simple device that could be manufactured locally at a cost of Rs 800 to 1000. The leg movement is similar to climbing along a ladder with intermitted rest period and hence not strenuous or requires no special training. It is an appropriate and simple device to climb coconut palms or vertical pole with adequate safety and less fatigue. But its take more time than present method of climbing coconut palms using a small loop made out of coconut fiber.