

Title: Power-operated mini rhizome planter

Application No. : 202231048954

Inventors: K. N. Dewangan, Thaneswer Patel, Sarju Thokchom, B. Surya Kumar Chhetry,
Bishorjit Ningthoujam

Patent No.: 548570

Date: 26-08-2024

Planting of ginger and turmeric in hilly regions are done manually by digging the soil and placing the rhizomes buds. Manual planting of ginger is labour intensive and time-consuming operation. The workers have to adopt bending posture during the operation. Thus, it can be tedious and painful for the workers in ginger plantation. Ginger buds are planted in rows equidistant apart. It also takes precision and control over the planting of buds at such distant rows, and also distance of buds within the rows. So, such precision and control may be erred when manually done. To overcome the drudgery associated with the farmer and also to replace the traditional methods of planting rhizome, there is a need of a mechanical planter that can aid the manual labour and reduce the efforts of the manual labour.

The ginger planter as shown in Fig. 1 includes furrow opener (102), a furrow covering device 104, two furrow wheels (106), hopper (108), a frame (110) for supporting the machine (100), one hitch point (112) for attaching the machine (100) to a power source, a sprocket (114), a metering bucket (116), a chain (118) attached to the metering bucket (116), a bucket covering unit (120), and a cam (122). The hitch point (112) is a single articulated point links through which the power tiller delivers tractive effort in the form of pull to counteract a draft force of a device. This help to attach the device with a power source such as power tiller. The machine also has a metering bucket (116), which may be a semi-circular bucket which is fixed in the chain (118). As the chain (118) moves, the bucket (116) attached to it, moves along with it, and picks up the rhizome from the hopper (108), as the bucket (116) passes around the hopper (108) that is filled with ginger rhizomes. Thereafter, the bucket (116) inverts as it passes around the top sprocket (114) and the rhizome fall due to gravity onto a discharge tube. The whole pathway of the bucket (116) carrying the rhizomes from the hopper (118) to the discharge tube is enclosed with a protecting material, for example, a rubber material, to avoid any damage of rhizome until the rhizomes get delivered in the furrow opener (102) through the discharge tube. Also, a bucket covering unit (120) may be employed to help in guiding the rhizomes to deliver safely in the furrow. The metering mechanism is powered by a furrow wheel.

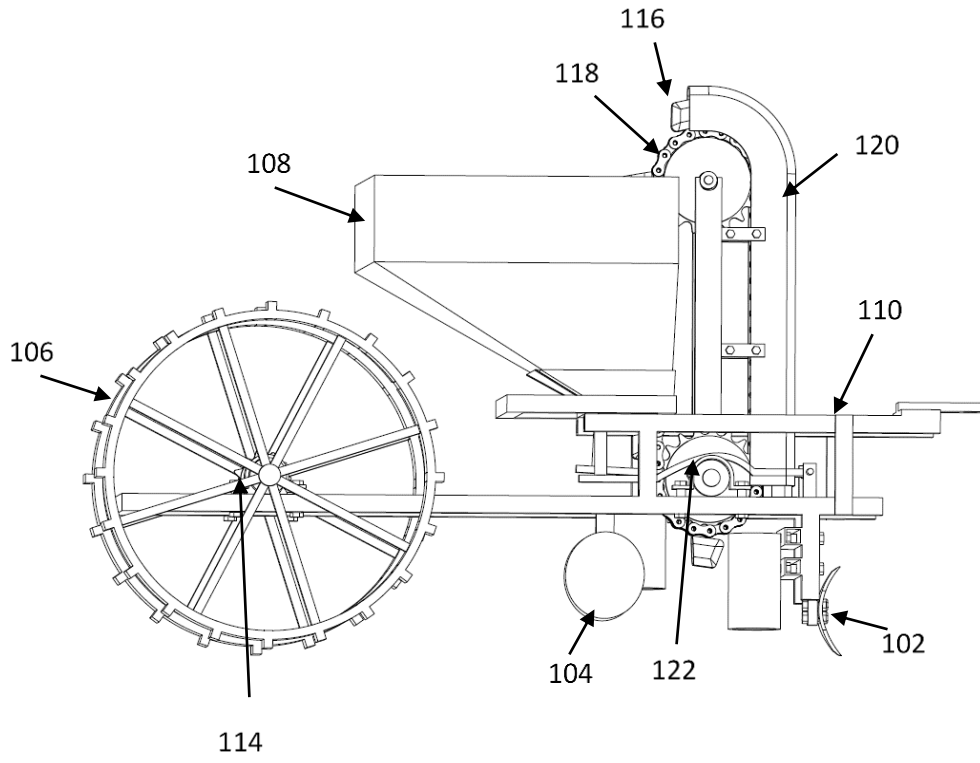


Fig. 1: Developed ginger planter