



The Cordless Plant Pruner

The Cordless Plant Pruner is a lightweight easy to operate device. The pruner was initially designed to accommodate people with disabilities for example arthritis and RSI - Repetitive Strain Injury and to make their lives easier. Later feedback has indicated that this device would be suitable for all keen gardening enthusiasts.

How does it work?

The plant pruner is electrically operated via a thumb switch, requiring the user to create only small movements in order to prune. The battery operated device comprises a high output torque motor/gearbox arrangement, replaceable blade, moveable anvil, and a charger for re-charging the unit. All the components have been designed, and carefully selected, to minimise the overall weight, and to bring the product into an affordable price range.



A double-pole, double-throw switch is used to control the direction of the motor.

When the switch is pressed the gearbox pulls the linkage arm around, thus causing the blade to move up and down.

If either side of the switch is held down, the blade will continue to go up and down until released. When the switch is released, all motion stops.

Why is it needed?

The design of a lightweight yet powerful electric pruner was originally conceived to be most helpful to people with disabilities. However, later feedback has revealed that this product would have a wide general appeal.

Various motor and pneumatic operated cutters are available on the market but they are aimed at the more heavy-duty aspects of gardening. The simple switch operation that activates the cutting action, and the ability to cut through most wooded stems with ease, is a common feature with this type of tool. Another characteristic of these tools tends to be that they are heavy. To combat this some companies have reduced the weight of the pruning device by having the battery strapped around the user's waist.

This product was designed to address the limitations of the existing products, providing a lightweight compact pruner for the price of a cordless drill.

Who is it for?

This type of lightweight and cost-effective pruner will be ideal for keen gardeners of all ages, who either require a tool to help ease the stress on their joints, or just want to make gardening more enjoyable.

Who has developed it?

The concept was conceived and the design and development of the idea were carried out by Oliver Szymanski, a former final year Product Design student at Bournemouth University.

The design concept is one of a small number selected by BU Innovations Ltd for further investment. The design is registered: - Registered Design No. 3021670.

Features and Benefits



Weight:

The low weight of the product reduces the amount of wrist strain and helps minimise fatigue.

Operation:

A simple reversible operating switch operated with the thumb makes the design suitable for those favouring either left or right hand use. Minimal movement by the joints in the hand will help to reduce repetitive strain injuries. Should the blade jam, its direction of movement can be reversed.

Moveable Anvil:

A safety release pin can be pulled out to release the anvil.

Cutting:

A replaceable blade gives the tool a greater lifespan. The deep slot in the anvil helps to create a slicing motion, which improves the cutting performance.

Power:

The pruner can be re-charged via a mains charger.

Operating time:

Up to four hours continuous use.

Storage:

The hook at the back allows the pruner to be hung when not in use.

The design concept is capable of being produced in a variety of different power ratings for different applications.



Technical Details

Power Supply

- 4 x 1.2 volt NiCad's
- Mains trickle charger
- Approximately 4 hours continuous use with full charge

Other features

- Replaceable cutting blade
- Hanging hook
- Moveable deep slot anvil
- Left or right hand operation

Geoff Bell

BU Innovations Ltd

Bournemouth University

Studland House, 12 Christchurch Road

Bournemouth, Dorset, BH1 3NA

Telephone: 01202 963760

Email: gbell@bournemouth.ac.uk

Registered Design No. 3021670

© BU Innovations Ltd & Oliver Szymanski 2005