PLASTIC DISPOSER

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Introduction

A plastic disposer, also known as a plastic waste disposer or plastic shredder, is a device or machine designed to break down and dispose of plastic waste materials. It is specifically engineered to handle various types of plastic waste, such as bottles, containers, packaging materials, and other plastic items that are no longer needed or have reached the end of their useful life.

The main purpose of a plastic disposer is to reduce the volume of plastic waste and facilitate its proper disposal or recycling. By breaking down plastic materials into smaller pieces or shreds, the disposer makes it easier to handle and transport the waste for further processing.

Plastic disposers come in different sizes and capacities, ranging from small household units to large industrial-grade machines. They utilize various mechanisms to shred or grind the plastic waste, such as blades, cutters, or crushing mechanisms. Some disposers may also incorporate additional features like sorting or separation systems to remove contaminants or different types of plastics.

The shredded plastic waste from a disposer can be further processed for recycling purposes. It can be melted down and moulded into new plastic products or used as raw material in other manufacturing processes. Recycling plastic waste helps reduce the demand for virgin plastic production, conserves resources, and minimizes environmental pollution associated with plastic disposal.

Plastic disposers play a vital role in managing plastic waste and promoting sustainable practices. They offer an effective solution for reducing the volume of plastic waste, making it easier to handle, transport, and recycle. By implementing plastic disposers, we can contribute to a cleaner environment and a more circular economy for plastic material.

Key words

1. Shredder
2. UPI technology
3. Micron thickness of plastic
4. Recycling unit

Objective of the study

Recycling facilitation: A plastic waste disposer helps shred and process plastic materials, making them more manageable for recycling. It can break down larger plastic items into smaller pieces, improving the efficiency of recycling processes.

Resource conservation: By properly disposing of plastic waste, a plastic disposer contributes to the conservation of natural resources. Recycling plastic reduces the demand for virgin materials, such as petroleum or natural gas, used in the production of new plastic products.

Waste reduction: The installation of a plastic waste disposer promotes waste reduction by diverting plastic waste from landfills or incineration facilities. This helps reduce the environmental impact associated with plastic pollution.

Waste management: A garbage disposal unit, even with plastic components, contributes to effective waste management by diverting food waste from landfills. This can help reduce methane gas emissions and the environmental impact of organic waste disposal.

Scope of the project

1.Financial benefit to rag pickers as well as a common man using it

2.Sustainable environment

3.Increased plastic recycling as only 40% of plastic is recycled in India

4.Cleaner surrounding

Methodology

A unit of plastic disposer to be installed within every 5km radius. When a person disposes plastic above 40-micron thickness. The software and mechanism installed inside measures and weighs the amount of plastic input. The disposed waste is further shredded into particles and stored within the unit. When the input of waste is taken the user has to provide his UPI ID or phone number to which he needs the amount to be transferred. The money is deposited instantly to the user's account according to the waste he has disposed of.

The further process is to collect the shredded plastic and in a separate manufacturing unit it can be moulded into various items which can be used for various purposes one of this can be moulding it into thick blocks similar to brink and utilising this for cubical construction

Result and conclusion

Plastic waste, or plastic pollution, is 'the accumulation of plastic objects (e.g.: plastic bottles and much more) in the Earth's environment that adversely affects wildlife, wildlife habitat, and humans.'

It also refers to the significant amount of plastic that isn't recycled and ends up in landfill or, in the developing world, thrown into unregulated dump sites.

The three quarters that isn't recycled enters our environment, polluting our oceans and causing damage to our ecosystem. In less developed countries, the majority of plastic waste eventually ends up in the ocean, meaning that marine animals are especially at risk.

So much of what we consume is made of plastic (such as plastic bottles and food containers) because it's inexpensive, yet durable. However, plastic is slow to degrade (taking over 400 years or more) due to its chemical structure, which presents a huge challenge.

Reducing plastic consumption and raising awareness about plastic recycling is crucial if we are to overcome the problem of plastic waste and pollution on our planet.

Hence installation of this unit in every region solves major issues as mentioned above.

Scope for future work

1. conserve non-renewable fossil fuels (oil) used in manufacturing of new plastic.
2. reduce the consumption of energy used in the production of new plastic
3. reduce the amount of solid waste going to landfill
4. reduce emission of gases like carbon dioxide into the atmosphere.
5. Decrease plastic dumping.