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# AUTOMATIC COCONUT DEHUSKING, MACHINE.

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## ABSTRACT
Generally, coconuts are dehusked manually using hand operated machine and cutting pins. It is require skilled worker. Now a days the attempts made so fare are not so effective in the dehusking process the output required are not so proper and the require output is not obtained. The for it have not been successful in daily life's. Cutting of coconuts occur but not proper dehusking of it.The effort required in manual method is much harder than a machine. We are pleased to bring out our project "AUTOMATIC COCONUT DEHUSKING MACHINE"The main aim of our project is to reduce the manual effort.The main effort of the project is to do the proper dehusking of the coconut. However there have been some dehusking machines which have been working on the hydraulic with the greatest effort with higher cost and more labour or more skilled labours or workers required. The main aim of this project is to overcome the demerits.

## INTRODUCTION
Coconut the water fruit from the coconut palm tree has its own scientific name "Cocos nucifera". The Indian country is the most producers of coconut incoastal area. The normal method of now a days people are dehusking with the help of spikes or any other pointed object. In this way the coconut is slightly tilted and poked with an pointed material for the dehusking of the coconut. In this process there is a risk on injury and required a lot of time. This process is also require skilled person or there is the risk of the injury. To overcome this we have invented a risk probhited machine called as the "AUTOMATIC COCONUT DEHUSKING MACHINE "In this machine we have a requirement of very simple machinery component like (shaft, roller, cutting pins, pullies, motor, switch, spur gear bearing).There is no requirement of skilled workers for this. Thehandling of it is very simple without any effort required. The time required for the dehushing process is very less with very minimum effort required. The main use of the machine will be very useful in small scale industry and most coconut producing farms. The extraction of oil industry where the use of coconut is used the the machine will be very use full for the dehusking of the coconut.

## MANUAL TOOLS FOR DEHUSKING A COCONUT

**The Coconut Spanner**
The coconut spanner with the pointed head is used for the dehusking of the coconut. The structure is modified bye the requirement which satisfy our need. This elongated legs acts like a handling. These are meant to hold into the hand and force is applied on it and so that the other two ends which are inserted into the coconut moves away and remove the fiber of coconut. By operating this kind of tool we can satisfy our requirement.

**Mini Coconut Dehusker**
Mini coconut dehusking is much like that of coconut spanner which we use. It can be regarded as the modern version of coconut spanner. Similar to coconut spanner it also has long legs which are bending at its end.

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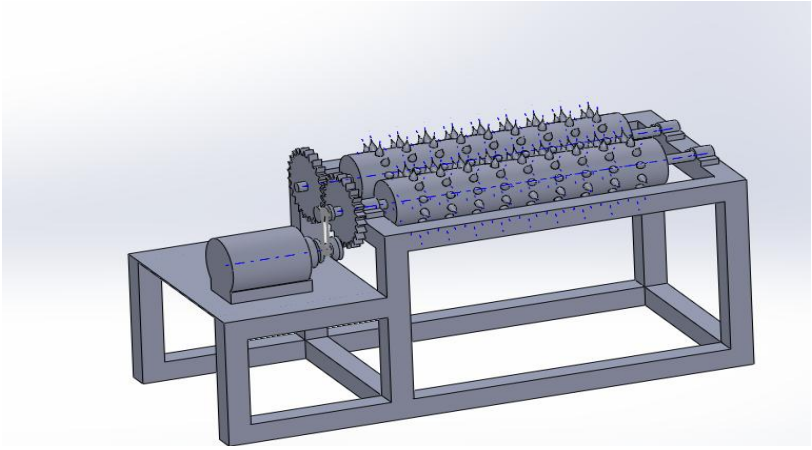

*Fig 1 :Project Schematic*

**Working**

This is made of two spiked rollers which are revolving in opposite direction and coconut is placed in the gap between these rollers which are mounted. The coconut is gently pressed so that the spikes impinges to the husk and the revolving effect causes a shear stress to act on the husk because of the husk to shear away when shear force exceeds the binding force of husk. Main problems faced are transfer of husked coconut, speed reduction of prime mover as for the rollers of project. The first problem was solved by giving an inclination angle to the frame which hold the rollers so that there is an inclination between both rollers. Power is supplied by operating an electric motor. De-husking unit is made by consisting two rollers. The material used for making the rollers in MS and cutting pins are also made from the same material with conical shaped front and cylindrical base. The total cut pins are drilled and welded in both rollers. The rollers are powered by motor through speed reduction. Two rollers are revolving in opposite direction by two spur gears in which input is only given to one gear those are attached. All this is supported by a frame made of mild steel angles.

## FORMULAE

$P = \frac{2\pi NT}{60}$ ……. *(1)*

$P = V^2/R$ ……. *(2)*

$T = F*R$ ……. *(3)*

## CONCLUSION

In the making of the coconut de-husking machine, a mechanism which de-husks coconuts by changing out nut breakage and distortion of the husks has been improved for small scaled farmers in certain rural areas.

The machine is easy to operate and also performs with an average de-husking efficiency. The introduction of this machine will not only minimize the problem of limited manpower but also increases the productivity of automatic de-husking coconuts.

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