

## Incense Stick Powder Mixing Machine

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**Abstract**— Incense sticks known as agarbattis in Asian country, are getting internationally referred to as a ritual product used for religious purpose manufacturing fragrance for aromatherapy and meditation. The agarbatti employees in Asian country lack economical tools and education to develop higher suggests that of process agarbattis. The current manual mixing processes are physically exhausting and time demanding to complete. This project focuses on providing a better means of mixing the raw materials involving in making incense sticks. In-depth study was dispensed victimisation many methodologies as well as personal interview, observation, and visit. The data was collected and analyzed victimisation QFD, to pick the characteristics of combine, varieties of materials, manufacturing processes. The final concept was selected by participatory and weighted ranking method to show the problems faced by the manual labours in this industry. Capturing form associated shape of rugged product in an economical manner, a time period full scale epitome was develop for changing manual combining method to semi-automatic combining, that helps in reducing the mixing time successfully from 5Min to 2Min per Kg. Through the success of the look tiny scale small enterprises are ready to generate additional revenue with inflated production, creating more opportunity in manufacturing agarbattis in rural India.

**Keywords:** Operated By Hand, Agarbatti Powder Mixer, Small Enterprises Asian Country

### I. INTRODUCTION

India may be a immense country and also the Asian nation individuals follow numerous religions, speak totally {different|completely different} languages and follow different customs and traditions. In spite of this diversity, all people use agarbatti (Incense sticks) at all the places of worship, religious functions, festive occasions, weddings. This itself speaks volumes of the high importance agarbatti has. The burning incense in non secular and social functions has been practiced in Asian nation since early times The demand for agarbatti is increasing each within the domestic and export markets due to the advance in quality and increase within the sorts of product. India is the largest producer of agarbattis in the world. Incense-stick creating machine that presently accessible in Asian nation stay unaffordable to several poor employees Unurgency still build them manually by smearing the paste, which is a mixture of charcoal powder, wood powder and binding agent, around a bamboo stick. Such labour intensive work mostly involves about half a million poor women in rural and urban slum areas across India. To aid the method of incense-stick creating and to mitigate the difficulty of pathological state arising from operating for over eight hours each day in degraded workspaces & also to boost the income of poverty stricken women workers, a hand-driven mechanism has been developed. The motivation for developing a low-cost solution

to alleviate their problems and The challenge then was to develop a machine that is affordable, hand-operated (so that workers did not lose their work during erratic electricity supplies in the rural areas), be of small-size to be stored in their little home, that should be easy to maintain and clean. [1]

#### A. Objectives:

- To suggest development of propor mixing of incense stick powder.
- To overcome reduce the time requirement of mixing.
- To create for labour comfortness.
- Developing for affordable to small scale industries.
- Understand project plan and execution.
- To create human hazardous free mechanism covering under the safety norms.

### II. CONSTRUCTION AND WORKING

#### A. Frame

It is supporting member of the machine. The blender, motor and gear box are mounting on it. blender is mounting with the help of bearing on the frame and sidely the motor and gearbox unit are mount at left side of the frame.

Material: - Mild steel



#### B. Shaft

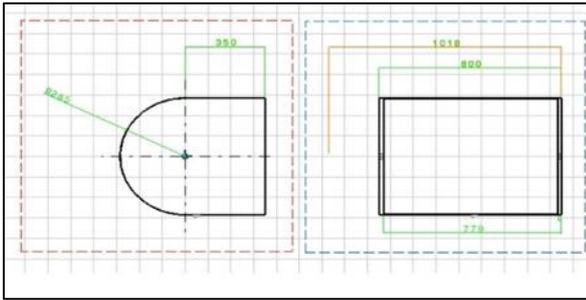
Shaft is rotating member which rotating inside the blender which connected the gearbox. It having 25mm diameter and its 100 long .its help to mixing the powder which rotate at 150 rpm.

Material:-Mild steel



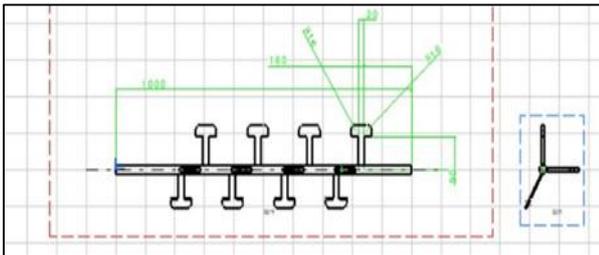
#### C. Blender

It's the main component of the machine.all the unit are mix inside the blender the rotating shaft are present with blades to mix the powder.



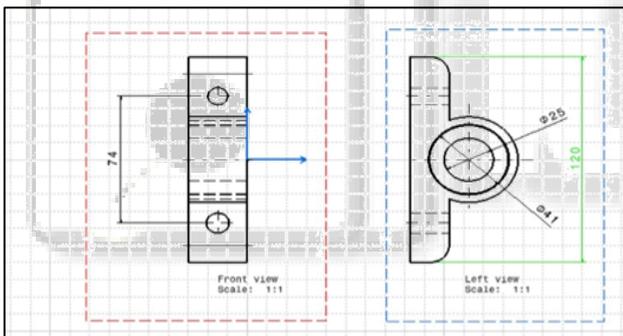
#### D. Blender Blade

Blender blade mounted on the shaft to proper mixing of the material. its rounded to the shaft and it rotated at same speed as shaft.



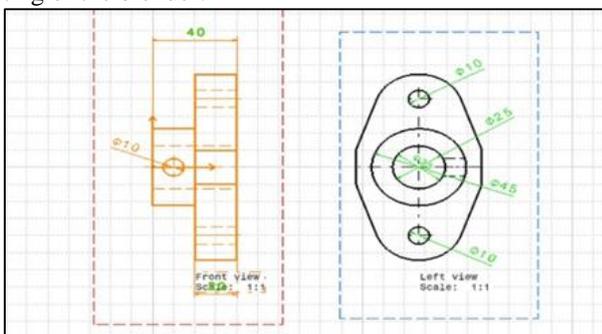
#### E. Plummer Bearing

It's supporting the shaft to rotate smoothly and its use for tilting of the tank easily. its mounted on the top surface of the frame at the both end of the shaft.



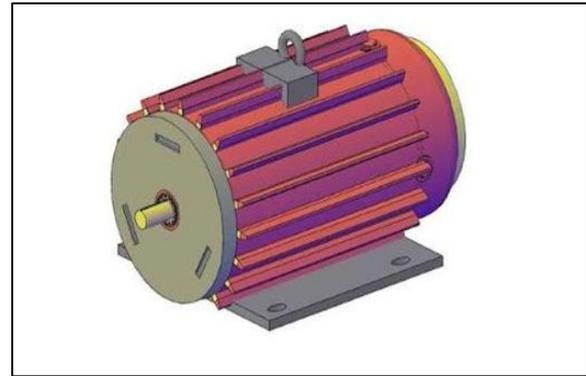
#### F. Flanged Bearing

Its attach to the blender in which the shaft goes through the blender its work as smooth working the shaft and proper tilting of the blender.



#### G. Motor

Motor use to power transmission to the shaft. Its connected to the gearbox and it place over the frame.[4]

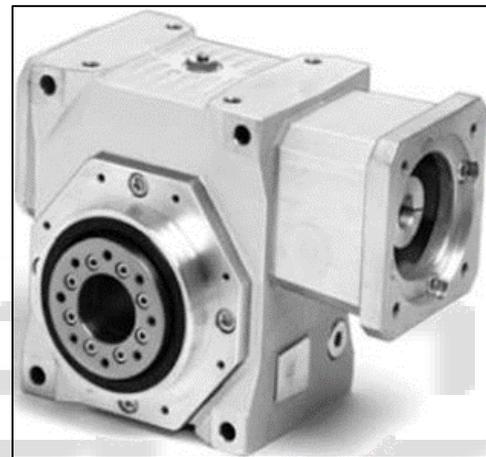


#### H. Gearbox

Its use to reducing the speed of the motor and convert the speed as required to the mixing.

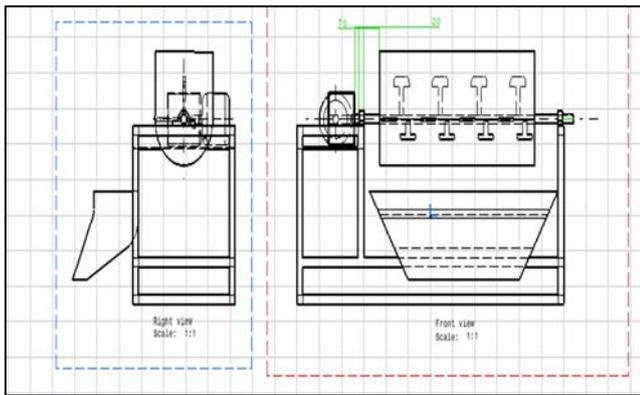
Number of teeth on worm (T1)=4

Number of teeth on worm gear (T2)=40 Centre distance (C.D.) = 238.5 MM



### III. WORKING

Mixing machine work on ac supply of the current. Motor, gearbox are main component of this machine. Motor and the gearbox are mounted on M.S. material frame in which the motor rotate at the 1440 rpm which connected to the worm and worm gearbox. Worm and worm gearbox use to reduce the speed f the rotating shaft which is attached to the gearbox.it reduce its speed upto 150 rpm. The blade are mounted on the shaft which rotate with axis of the shaft .the blade and shaft are rotated inside the blender (tank) when mixing powder ad some of the water inserted in the blender after giving the supplied to the motor the shaft start to rotate and the mixing of powder has been started the spool type blade we are using here which give proper mixing of the material.[3]After the mixing the remove the mixing powder from the blender we tilt the blender and with the help of the Hooper we remove the material from the blender after removing the material again we put blender to its original place.



#### IV. ADVANTAGES

- This machine provides employment opportunities to the women in rural areas.
- The incense stick is adhered properly.
- No electric power consumptions.
- Less maintenance charges.
- Less initial cost.
- Easily can be disassembled.

##### A. Expected Outcomes

###### 1) Labour:

This machine is easily handled by low skilled operators therefore operator easily available hence reduce labour cost.

###### 2) Self-Employment:

Capital Cost of this machine is minimum due to this reason possible to easy purchase this machine hence person easily start self-employment.

###### 3) Time Saving:

Due to powder mixing by machine hence time saving is possible.

###### 4) Improvement in powder Quality:

Due to the proper powder mixing by machine therefore improvement in powder quality.

###### 5) Labour Health and Safety:

Due to the powder mixing by machine therefor to protect the labour health and safety from the hazardous dust particle.

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