# የኢትዮጵያ አዕምሯዊ ንብረት ባለስልጣን

ETHIOPIAN INTELLECTUAL PROPERTY AUTHORITY

# የአዕምሯዊ ንብረት ጋዜጣ

# INTELLECTUAL PROPERTY GAZETTE


ቅጽ 21 ቁጥር 5 — የካቲ 30, 2017

Vol.21, No.5 — Feb. 07, 2025

በየወሩ የሚታተም

Published Every Month

በህዝብ ዘንድ
የአዕምሯዊ ንብረት
ዕዉቀትና ግንዛቤ
እንዲዳብር እንሠራለን።



# የኢትዮጵያ አዕምሯዊ ንብረት ባለስልጣን

ETHIOPIAN INTELLECTUAL PROPERTY AUTHORITY

# የአዕምሯዊ ንብረት ጋዜጣ

# INTELLECTUAL PROPERTY GAZETTE


ቅጽ 21 ቁጥር 5 — የካ 30, 2017

Vol.21, No.5 — Feb. 07, 2025


በየወሩ የሚታተም

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Ethiopian Intellectual Property Authority


ቅጽ 21 ቁጥር, 5
Vol. 21 No. 5


የኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን
Ethiopian Intellectual Property Authority

# መግቢያ

# Introduction

በዚህ እትም ውስጥ የጥበቃ መብት የተሰጣቸው የግልጋሎት ሞዴልና ኢንዱስትሪያል ዲዛይን ቢብሎግራፊ መረጃዎች፣ የግልጋሎት ሞዴል ተቃውሞ ጥሪ ማስታወቂዎች፣የሀገር ውስጥና የውጭ ሀገር የንግድ ምልክት ምዝገባ፣ የተመረጡ የቴክኖሎጂ መረጃዎች እና የፈጠራ ሥራ ባለቤቶች ሊያውቋቸው የሚገቡ ነጥቦችን የያዙ አምዶች ተካተዋል፡፡

በግልጋሎት ሞዴልና ቢብሎግራፊ መረጃዎች እና የፈጠራ ስራ የተቃውሞ ጥሪ ማስታወቂያዎች ሥር 19 የተቃዉሞ ጥሪ የግልጋሎት ሞዴል ማስታወቂያዎች እና 9 ጥበቃ ያገኙ የግልጋሎት ሞዴል ስራዎች ሰርተፊኬት ተስተናግደዋል፡፡

Under this publication, Utility Model and Industrial Design Rights Granted/Bibliographic Information, and Utility Model Cautionary Notices, Registered Domestic and Foreign Trade Marks and Selected Technological Information columns are addressed.

In the Utility Model Rights Granted Bibliographic Information, and Utility Model Cautionary Notice section, **19 Utility Model Cautionary notice abstracts and 9 Granted Utility Model** applications are made Public.

A Method of Making Prefabricated cement flue plate manufacturing and its mold በሚል ርዕስ በፖተንት ሰነድ የታቀፈ የቴክኖሎጂ መረጃ በናሙናነት ቀርቧል፡፡

Full texts of technological information contained in Patent documents are also dealt with under selected Technological Information Columns.

በዚህ አጋጣሚ ለውድ አንባቢያን፣ ተመራማሪዎች፣ የቴክኖሎጂ ባለሙያዎች፣ የፈጠራ ባለሙያዎችና ኢንቨስተሮች ለመግለጽ የምንወደው በተቋማችን እነዚህን የመሳሰሉና በሌሎችም መስኮች ለሀገራችን የቴክኖሎጂ ልማትና እድገት የሚረዱ በፖተንት ሰነድ የታቀፉ በርካታ የቴክኖሎጂ መረጃዎች ክምችትእንዳለና መረጃዎቹም ለማንኛውም ተጠቃሚ ክፍት እንደሆኑ ነው፡፡

We would like to remind our readers, researchers, technologists, inventors, and investors that we have a lot of technological information contained in patent documents in our Office which can be accessed by any user.

**አመልካች ሰለሞን ደበላ ቤኩማ፡**አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡

**አነስተኛ ፈጠራው ከበቆሎ የዶሮ መኖ አዘገጃጀት ዘዴ ነው.**ይህ ፈጠራ ከበቆሎ የዶሮ መኖ አዘገጃጀት ዘዴ ሲሆን በዋናነት እንደግብዓት በቆሎ፣ ዳቦ፣ እንጀራ እና ሎሎች የምግብ ትርፍራፊዎችን ያሉት ሲሆን ይህንን በማድረቅ የደረቀውንም በመፍጨት እና በማሸግ ይጣሉ የነበሩትን በባህላዊ መንገድ ወደ ፈጠራ ሥራ ለውጠን ሥራ ላይ ለማዋል የቀረበ አዘገጃጀት ዘዴ ነው፡፡

ET/U/2025/4717

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**አመልካች ፊሊሞን በየነ ደስታ፡**አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡

The minor invention is **ከፍተኛ ሀይል የሚሰጥ የስኳር ድንች ስናክና የአዘገጃጀት ዘዴ/A** Process of preparing High energy sweet potato snack/. ይህ ፈጠራ ከፍተኛ ኃይልን የሚሰጥ የስናክ ምግብና የአዘገጃጀት ዘዴ ሆኖ በዋናነት ከስኳር ድንች፣ የሚሠራና እንደ ማያያዣ

Binders/ ቀረፋ ፣ ማር፣ የወይራ ዘይት፣ ደረጃውን የጠበቀ ጨው በማዋሃድና በስተመጨረሻም እንደማያያጣጉነት የተዘጋጀውን ማያያጣ በመጨመር የሚዘጋጅ ጉልበት ሰጪ ምግብ የአዘገጃጀት ሂደት ነው፡፡

ET/U/2025/4718

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**አመልካች ዶ/ር እየሩሳሌም ጌቱ እና ማህለት ካሳሁን ፡**አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡

The minor invention is **Organic Tea Preparation Method (የኦርጋኒክ ሻይ የአዘገጃጀት ዘዴ)ነው፡፡**ይህ ፈጠራ የኦርጋኒክ ሻይ አዘገጃጀት ዘዴ ሲሆን በውስጡ ጥቁር ወይም አረንጓዴ ሻይ እንደ ዋና ግባአት በመጠቀም የተሰሩ እና የተለያዩ እፅዋት (Galactogogues) እንደ አብሽ (fenugreek)፣ የእንስላል ፍሬ (fennel seed)፣ አኒስ (anise)፣ የሳማ ቅጠል (nettle) እና የናና ቅጠል (mint) እንዲይዝ ተደርጎ የተሰራ ሆኖ የወተት ምርትን የሚያጠናክር፣ የእናቶችን ደህንነት የሚጠብቅ ለሚያጠቡ እናቶች የተሰራ የኦርጋኒክ ሻይ አዘገጃጀት ዘዴ ነው።

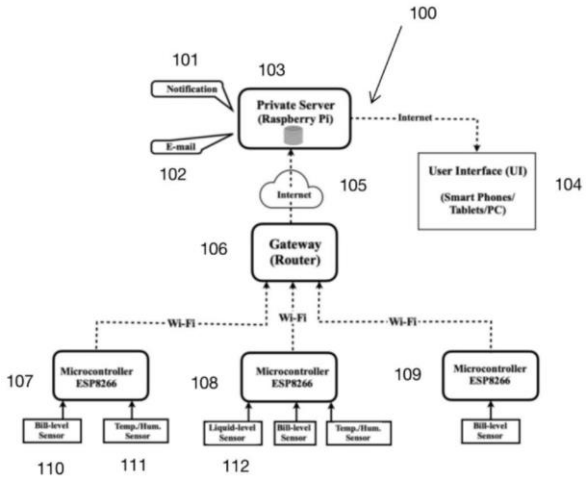
ET/U/2025/4719

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**አመልካች አዳማ ሳይንስ እና ቴክኖሎጂ ዩኒቨርሲቲ/Adama Science and Technology University/፡አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት**

**በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Intelligent waste containers design and wireless communication networks and control of waste containers, managing status information therefor.** The invention discloses a hospital waste containers management platform and control the information interaction and collection. Th system comprises: (107) formation of intelligent hospital waste containers where each waste container will be installed with sensors for filling level (110), temperature (111), humidity (111), for status monitoring; (2) a center server utilizing raspberry pi (103) to collect the information from all the connected intelligent waste containers; (3) a graphical user interface (104) to visualize the status of each connected waste container.




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**አመልካች አፈወርቅ ሞት ባይኖር ሞላ፡አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

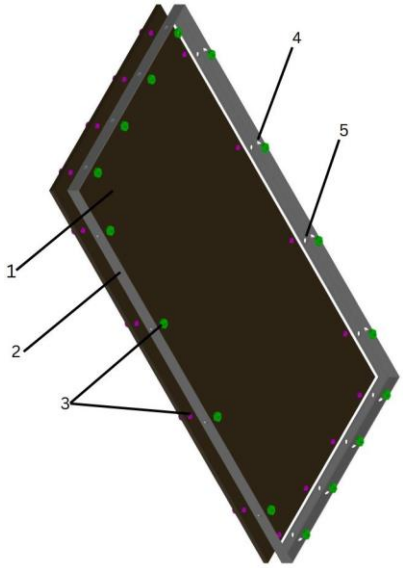
**አነስተኛ ፈጠራው ከንብ የንብ አበባ ዱቄት እና መርዝ አዘገጃጀት ዘዴ ነው፡፡** ይህ ፈጠራ ከንብ የንብ አበባ ዱቄት እና የንብ መርዝ አዘገጃጀት ዘዴ ሆኖ በዋናነት የንብ አበባ ዱቄቱን(bee flower powder) ለማዘጋጀት፡-በዘመናዊ በፍሬም የተሰራ ወንፊት መሰል ሽቦ(Electroshock tramp)፣የኤሊክትሪክ ገመድ ባለ 1.5ዋት(ቀጥታ ከ ወንፊት መሰል ሽቦ(Electroshock tramp) ጋር የሚገናኝ ) በንቦች መውጫና መግቢያ በር ላይ የሚቀመጥ፤ የንብ መርዝን (Bee venom) ለማዘጋጀት ደግሞ የዘመናዊ ቀፎዉን የላይኛዉን ክፍል በመክፈት ከቀፎዉ የላይኛዉ ክፍል ከጫፍ እስከጫፍ ተወጥሮ የሚቀመጥ አየር መያዝ የሚችል ላስቲክ እና የኤሊክትሪክ ገመድ ባለ 1.5ዋት (ከተወጠረዉ ላስቲክ ጋር የሚገናኝ) ሲሆን የተገኘዉን መርዝ እና ዱቄት በመሰብሰብ እና በማሸግ ለተለያዩ አገልግሎቶች የሚዉል ፈጠራ ነዉ፡፡

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**አመልካች ካሊድ ኑራ አባቡላ;አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

**አነስተኛ ፈጠራው ከድንጋይ የሚሰራ ተገጣጣሚ የግድግዳ ቦርድ ነው፡፡ ይህ ቦርድ ተገጣጣሚ** የድንጋይ ቦርድ ሆኖ በስዕል አንድ ላይ የተለያዩ ዲዛይኖችና ማሳመሪያዎች የሚያርፍበት ውሃ የማያስገባ (water proof) ሽፋን (1) ቦርዶቹን የሚያስተሳስር ኤል ቅርፅ (L–shape steel) ጠፍጣፋ ብረት (2) የብረት ብሎንና ዳዶ (3)፣ ብረቶቹን ከሌላ ብረቶች ጋር የሚያስተሳስሩ ብሎኖችን የሚያስገቡ ቀዳዳዎች (4)፣ ድንጋዩንና ኤል ቅርፅ ብረቱን (L–shape) የሚያያይዙ ብሎኖችን የሚያስገቡ ቀዳዳዎች (5) የያዘ ሆኖ በግምባታ ወቅት የብረት ብሎኖችን ብቻ በመጠቀም ያለምንም ተጨማሪ የግምባታ ግብአቶችና ባለሞያ በቀላሉና በፍጥነት የሚገጣጠም፣ ተጨማሪ ማሳመር (finishing) የማይፈልግ ሲሆን ግድግዳውን ማፍረስ ሲፈለግም ብሎኖችን በመፍታት ቦርዶቹን በቀላሉ በመነጣጠል ሳይጎዱ መልሶ ለመጠቀም የሚያስችል ቦርድ ነው።.



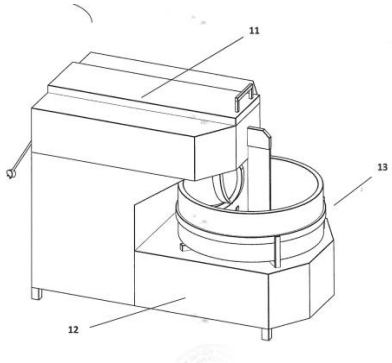

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**አመልካች ዘኪዮስ ጎኤ ቦቦዶ /Zekiyos Goa Bobodo፡ አጭርይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ**

**በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Dough kneading machine.** The invention discloses dough kneading machine; including a main body on which a dough mixing component is mounted. The device 10 for kneading dough includes an upper frame 11and lower frame 12. The lower frame 12 supports a mixing and kneading vessel 13 intended to receive the ingredients that compose the dough to be mixed and kneaded. The kneading machine 10 includes a upper base frame 11 and a lower base frame 12, a reduction outer large wheel support 19 is set on the bottom of the upper base frame 11, the vertical mounted motor 20, belt reducing mechanism 21 and small wheel 22 are all mounted in the upper base frame 11 which makes the structure of the product more compact and easier for assembling and maintenance.




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**አመልካች አብዱሰላም ሳለሁ ሱልጣን;አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Composite Plastic and Sand Recycling.** The invention titled Composite Plastic Sand Products presents a revolutionary approach to eco-friendly construction materials by utilizing recycled plastic waste in combination with sand. This innovative solution not only addresses the pressing global issue of plastic waste accumulation but also offers sustainable, durable, and high-performance alternatives to conventional construction materials such as concrete and asphalt. The composite material, comprising recycled plastics (HDPE, PET, PP), sand aggregate, and optional Plastic pigments or master batch for color customization, exhibits exceptional properties including high compressive strength, flexibility, durability, chemical resistance, UV stability, and low water absorption rates (<1%)

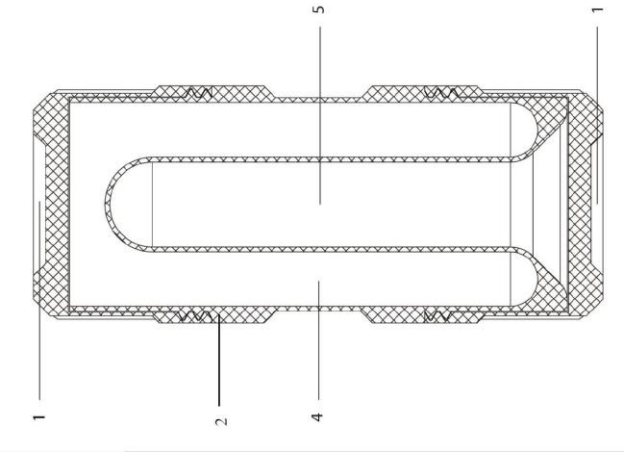
**ET/**UM/2025/4724

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**አመልካች ሙሉጌታ ታየ ተሰማ;አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን**

**ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **BOTTLE.** This invention relates to a bottle, comprising a cap (1), that is screwed on the top and bottom part of a flask (2) that contains the outer chamber (4) and inner chamber (5), a bottle designed by such a system and configuration makes it possible for the first time to store and carry different types of fluid, solid edible and both in one bottle.



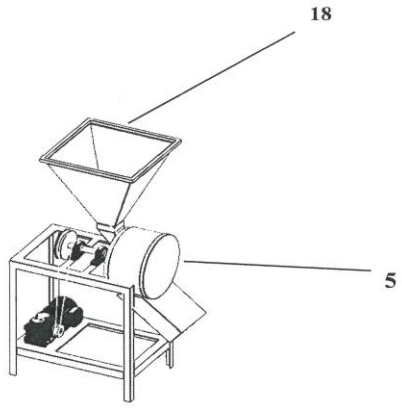

**ET/UM/2025/4725**

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**አመልካች ጋሻው ኤዲአ ጎዳና/Gashaw Edeo Godana/,;አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Granular Food Milling Machine.** Amilling machine for a coffee, spices or another granular food includes a couple of grinding

wheels and wherein the couple of grinding wheels rotate during a grinding. Among many advantages, the grinding machine provides lower energy consumption and a lower noise emission at a same ground product rate. A mill for granular food also including an adjuster attached to a rotating wheels and rotatable relative to the rotating wheel and to be prevented from coming off the milling bowel in an axis direction. A movement attachment and detachment unit that inscribes an inner wing grinding blade in the bowel unit and the adjuster makes the wing grinding blade unit movable in the axis direction and makes the grinding blade attachable and detachable. A rotary shaft extending from a rotary operation unit extends downward along a mill. The wing grinding blade is attached to the rotary shaft. The adjuster is provided with a movement restricting unit that restricts movement of the rotating wheels to a predetermined position. Releasing the restriction makes the winged grinding blade and the bowel extractable.

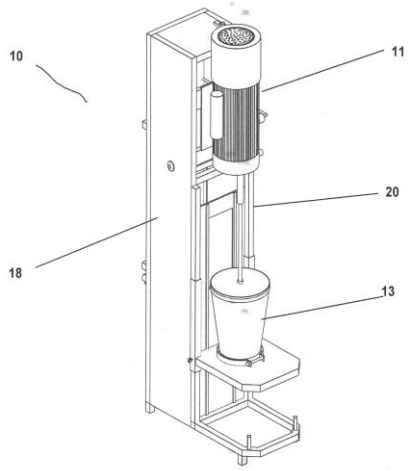



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**አመልካች ዘኪዮስ ጎአ ቦቦዶ /Zekiyos Goa Bobodo/፡አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Fruit Juice Making Machine.** A juice making machine comprises an electric motor (11) a variable frequency drive configured (17) to control the speed of the electric motor; a juicing mechanism that has at least one extraction assembly (21) that operates cyclically to extract juice; and at least one sensor that determines the position or positions of the extraction assembly during a up and down cycle motion of the two left and right guided motor rod.

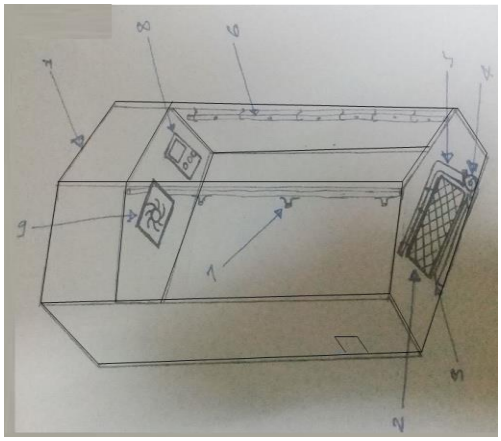



**ET/UM/2025/4727**

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**አመልካች አህመድ ጀማል የሱፍ እና አህመድ አብዱ ሁሴን;አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

Multi-Purpose Refrigerator Greenhouse Machine **(ብዝኃ-ጥቅም የግሪን ሃዉስ ማቀዝቀዣያ ማሽን) ነው፡፡ ይህ ፈጠራ ስራ የግሪን ሃወስ /**green house **/ የአየር ንብረትን በመቆጣጠር ለአትክልቶች እና ፍራፍሬ ምቹ ሁኔታዎችን የሚፈጥር ሲሆን ግሪን ሃዉስ (1) ሞቃት አየር ንብረትን ወደ ቀዝቃዛ መቀሪያ (2) ዉሃ መያዣያ ክፍል /**reserviour/ (3) ዉሃ መግፊያ ክፍል /**water pump **/ (4) ዉሃ ከማጠራቀሚያዉ መዉሰጃ የዉሃ ቱቦ /** pipe**/ (5),** misting **(6),** foging **(7), አየር ንብረት መቆጣጠሪያ /**controller**/ (8),** Exhaust fan **(9)የያዘ ነው፡፡**

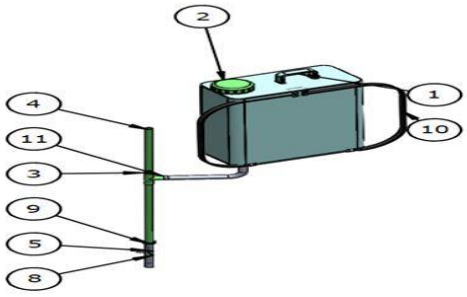


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አመልካች **ደረጀ ገረመው ወርቁ** /Dereje Geremew Worku/;አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡

አነስተኛ ፈጠራው **ማዳበርያ መዝርያ ማሽን** /Fertilizer Seeding Machine ነው፡፡ ይህ ቴክኖሎጂ በዘመናዊ መልክ የተሰራ ማዳበርያ መዝርያ ማሽን ሲሆን (2) የመዳበርያ ቁዋት የያዘ (3) ቱቦዎች የተገጠሙለት (4) ‘’T-SHAPED PLASTIC JOINT ‘’ የተገጠሙለት (5) የመዳበርያ መለክያ ያለዉ (6) የመዳበያ መቆጣጠርያ የተገጠመለት ፕስደረግ የተፈለገዉን መዳባረያ መጠን በተፈለገ ቦታ እንድዘራ የምያደርግነው፡፡



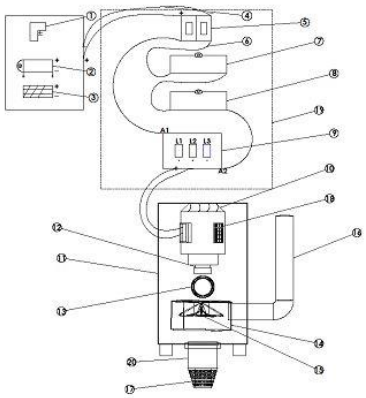

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አመልካች **ሰለሞን ግርማ ሁርሳ**/Solomon Girma Hurrisa/፡አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ

**ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Water Pump.** This innovation water pump machine is designed and fabricated to utilize pumping up to 10 meters deep groundwater used for farmers' irrigation work, block production and sanitation. This water pump machine is constructed using six basic components these are solar panels/3/, DC/AC motor/10/, pump cover/14/, sensor/19/, foot valve/17/, discharge pipe/16/, impeller and fan/15/. The Solar panel has two or more specially prepared layers of semiconductor material that produce direct current (DC) electricity when exposed to light this DC current is collected by the wiring in the panel and then supplied either to a DC pump, which in turn pumps water whenever the sun shines, or stored in batteries for later use by the pump. The sensor measures the physical state of the water level and performs automatic switching operations to reduce water wastage so this study aims to design and fabricate a very simple new water pumping machine that is different from the other based on its pumping capacity, automatic water level control system and it has a lower initial cost and it is considerably cheaper so that the farmers can obtain this water pumping machine that they will benefit and save a considerably amount of money over a long period and resolves the problem of farmers too expensive investment for water pump.



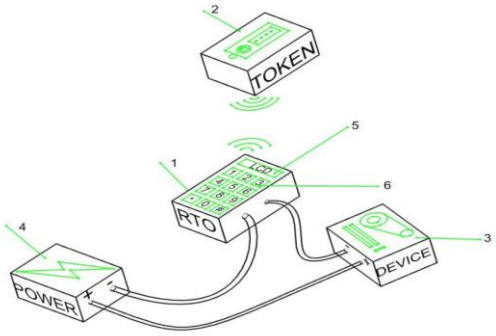
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**አመልካች በላይነህ መልካ አዳ/ Belayneh Melka Oda/፡አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Electronic Rent-to-Own (RTO) System.** This utility model relates to the field of device/machine control and payment systems. It specifically addresses a modular electronic Rent-to-Own (RTO) system designed to integrate with various devices/machines, to make them accessible to businesses and individuals without upfront financial burdens. By offering a flexible payment model, customers can lease devices or industrial machines with an option to own them after a specified rental period. The system adds a hardware control feature to devices/machines and uses a token system as a

secure way to remotely control the activation of the devices/machines via a token.




ET/U/2025/4731

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**አመልካች ክብሮም ገ/እግዝአብሔር / Kibrom Gebreegziabher Gebre /፡ አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Cow Dung Paint** This innovation is made from organic cow dung material produced in the form of emulsion (lit). It is manufactured from cow dung, Calcium carbonate, Titanium Dioxide, Xanthum Gum, and Binder by mixing and manufactured organic, ecofriendly, and cost effective cow dung - based emulsion paint.

ET/U/2025/4732

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**አመልካች ክብሮም ገ/እግዝአብሔር/** Kibrom Gebreegziabher Gebre **/፡አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

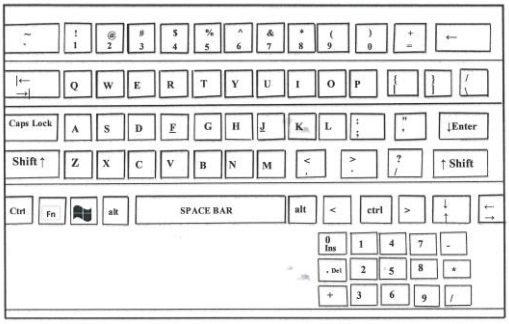
The minor invention is **PELLET Manufacturing** Approximately 90% of the total population in Ethiopia still relies primarily on solid fuels. It is an inefficient cooking system which causes indoor air pollution. Cooking with traditional stove produces smoke & particles less than 10 um dia results respiratory problems. Traditionally women are responsible for cooking food poses threats to health, as over 4 million death by household air pollution from cooking with solid fuels. Using alternate fuel with efficient stoves can rise fuel efficiency along with reducing health hazards. As an agriculture based country about 75% of energy comes from biomass in rural area are agricultural waste and residues. These residues are used in a non-efficient and non-hygienic way. Besides there is also ample invasive alien species (Prosopis juiliflora, and Lantana camara) deteriorating the biodiversity and harming the local indigenous species are also used for producing the new innovation product. By producing high efficiency pellet we can solve energy crisis, assuring hygiene in rural and urban cooking and save the environment.

ET/U/2025/4733

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**አመልካች አብረሃም አንሼቦ አሼቦ/ Abraham Anshibo Ashebo /፡ አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

The minor invention is **Blind Fingers' Visualizing Computer Keyboard.** The invention is Blind Fingers' Visualizing Computer Keyboard" from existed computer keyboard placement position, which was derived from old typewriter systems. It is obvious that on all computer keyboards some underline sings found on "F" and "J" keys. This underline/signs not known almost all computer users. It makes worst for blind people. So on this invention, I have done some value add on 10 letters and 2 functions keys. This will help them to trace their fingers with keyboard. Then it will be very easy to them, due to exited developed softer ware can give them letters sound whenever the strike letters. Also I understood that they are very fast to grasp up things in instantly more than others.




ET/U/2025/4734

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**አመልካች የምስራች ጌታሁን ወልደአብ;አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን፤ በተባለው ጊዜ ውስጥ የተቃውሞ ማመልከቻውን ካላቀረበ በሕጉ መሠረት ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል፡፡**

**አነስተኛ ፈጠራው የድርቆሽ ፍርፍር እና አዘገጃጀት ዘዴ ነው፡፡ይህ ፈጠራ ወዲያው ለመመገብ የሚያስችል የፍርፍር ድርቆሽ እና አዘገጃጀት ዘዴ ሲሆን በዋናነት ከጤፍ እና ከስንዴ፣ በቆሎ፣ ገብስ፣ ሩዝ፣ ማሽላ፣ አጃ እና ሌሎች የእህል ዱቄቶች ውህድ፣ ቀይ ሽንኩርት፣ ነጭ ሽንኩርት፣ የምግብ ዘይት፣ በርበሬ፣ ቲማቲም፣ ጨው ወይም ስኳር ውሃ፣ የበሬ ሥጋ ቋንጣንና ሌሎች ጣዕም በመጠቀም በተለያየ ጣዕም ተዘጋጅቶ ደርቆ የሚታሸግና ለረጅም ጊዜ የሚቆይ ሲሆን ከዚያም መመገብ ሲፈለግ የተመጠነለትን ውሃ በማፍላት ከ 5-7 ደቂቃ ውስጥ ብቻ አዋህዶ የሚመገቡት ወይም በኮቾሮ መልክ መመገብ የሚያስችል ፈጣን የፍርፍር ድርቆሽ ነው።**

ET/U/2025/4735

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**INID CODES:** Internationally Agreed Numbers for the Identification of Bibliographic Data

| INID CODES | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | የግ.ሞ ቁጥር | | 45 | ምዝገባ ቀን | | 73 | አመልካች |
| 21 | ማመልከቻ ቁጥር | | 51 | ዓለም አቀፍ ምደባ | | 74 | ወኪል |
| 22 | ማመልከቻ ቀን | | 54 | የፈጠራው ርዕስ | | 57 | አብስትራክት |
| 30 | የቀደምትነት መግለጫ | | 72 | የፈጠራው ሠራተኛ | | | |

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|---|---|
| 11 | 1181 |
| 21 | ET/UM/2023/4402 |
| 22 | 04/12/2023 እ.ኤ.አ. |
| 30 | የማመልከቻ ቀን የቀደምትነት ቀን ነው |
| 45 | 24/12/2024 እ.ኤ.አ. |
| 51 | C 05F 17/00(2006.01) //<br>(C 05F 17:00 ) |
| 54 | የተፈጥሮ ፈሳሽ ማዳበርያ |
| 72 | ገ/የሱስ በየነ ገ/ሂወት |
| 73 | ገ/የሱስ በየነ ገ/ሂወት<br><br>መቀሌ ከተማ፣ ዞባ ክፍለ ከተማ አዲሃውሊ ቀበሌ፣ የቤት ቁጥር አዲስ [ኢት] |
| 74 | |
| 57 | ይህ ፈጠራ ከተፈጥሮ ዕፅዋት በፈሳሽ መልክ የሚዘጋጅ ፈሳሽ ማዳበርያ ሲሆን በዋናነት ከ የቬርሜ ኮምፖስት (Verme compost) 25%፣ የባህር አረም (Seaweed)15%፣ የዶሮ ኩስ (Chicken manure) 15%፣ 3% ከተፍጥሮ የሚገኝ አሚኖ አሲድ (Natural amino acid)2%፣ የኒም |

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| | ዘይት (Neem oil) 2%፣ ወይራ (Alover) 20% የእንሰሳ ፍግ (Cow manure)15%፣ 5% ሶዶዮም ካርቦኔት /Sodium bicarbonate/ 2% እና አልፋ አልፋ (alfalfa) 3% በመቀመም በፈሳሽ መልክ የሚዘጋጁ ማዳበርያ ሲሆን የኒም እና የወይራ ዘይት ደግሞ በማዳበሪያው ውስጥ መኖሩ ተባይ-ለመከላከል እና ፀረ-ፈንገስ ባህሪያት ስላለው እፅዋቶች በተባይች እንዳይጠቁ እንዲያደርግ ሆኖ ከተፈጥሮ እፅዋት በፈሳሽ መልክ የሚዘጋጅ ማዳበሪያ ነው። |

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| 11 | **1182** | |
| 21 | ET/UM/2023/4369 | |
| 22 | 13/10/2023 እ.ኤ.አ. | |
| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** | |
| 45 | 16/04/2017 እ.ኤ.አ. | |
| 51 | **A 47L 11/36**(2006.01) | |
| 54 | **Method of Banana Steam Fiber Making** | |
| 72 | Deneke Zaha Zamba<br><br>South Ethiopia, Gamo Zone, Arbaminch [ET] | |
| 73 | Deneke Zaha Zamba<br><br>South Ethiopia, Gamo Zone, Arbaminch [ET] | |
| 74 | | |
| 57 | The present invention relates to a method for producing banana fiber from banana stems, offering a sustainable and eco-friendly alternative to traditional fibers. The method begins with the collection of banana stems in bulk, | |

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| | ensuring an adequate supply of raw material. The collected stems are stripped into individual sheaths, which are then peeled to expose the fiber layers. These peeled sheaths are fed into a specialized machine designed to extract fibers efficiently while minimizing waste. Once extracted, the banana fiber undergoes a natural drying process by being sun-dried for one day, which ensures the fibers are properly prepared for further use without additional energy consumption. The resulting banana fiber is versatile and can be utilized in a wide range of applications, including textiles, packaging materials, ropes, sanitary products, paper production, and other eco-friendly products. |

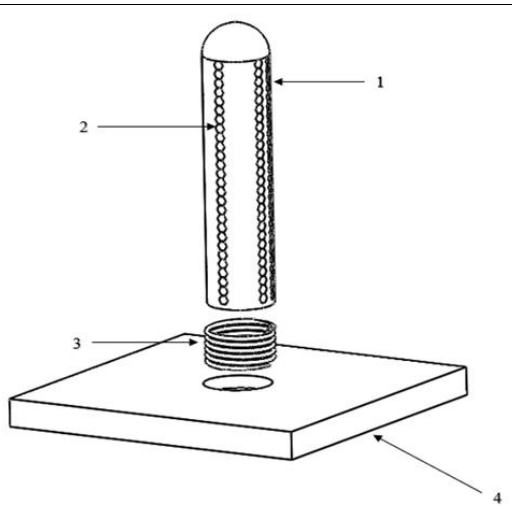
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| 11 | **1183** | |
| 21 | ET/UM/2024/4469 | |
| 22 | 19/03/2024 እ.ኤ.አ. | |
| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** | |
| 45 | 25/12/2024 እ.ኤ.አ. | |
| 51 | **D 21H 23/00(2006.01),**<br>**D 21H 11/00(2006.01)** | |
| 54 | **Method of Pulp Extraction and Paper Production from Banana Pseudo Stem** | |
| 72 | Deneke Zaha Zamba<br><br>South Ethiopia, Gamo Zone, Arbaminch [ET] | |

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|---|---|---|
| 73 | Deneke Zaha Zamba<br><br>South Ethiopia, Gamo Zone, Arbaminch [ET] | |
| 74 | | |
| 57 | This invention relates to an eco-friendly and cost-effective process for producing high-quality paper pulp using banana stems, typically discarded as agricultural waste. The banana stem, composed of fibrous material, is a sustainable alternative to traditional wood sources for pulp production. The process exploits the unique composition of the banana stem, characterized by high moisture content (93%), abundant parenchymatic cells, and significant levels of lignin (7.4%), total extractives (47.0%), and holocellulose (45.6%). This method enhances resource utilization, reduces environmental waste, and ensures economic viability while maintaining superior paper quality | |

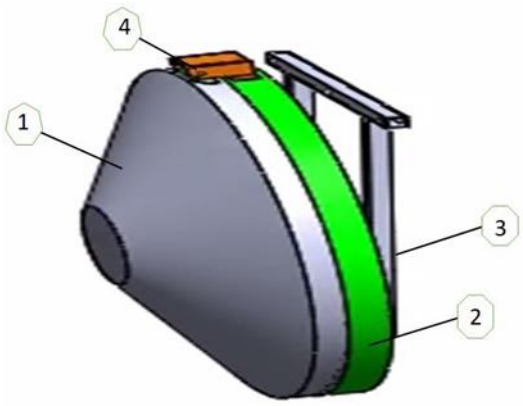
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| 11 | **1184** | |
| 21 | ET/UM/2024/4499 | |
| 22 | 05/04/2024 እ.ኤ.አ. | |
| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** | |
| 45 | 14/01/2025 እ.ኤ.አ. | |
| 51 | **F 03D 1/06(2006.01),**<br>**A 61B 17/34(2006.01)** | |
| 54 | **Bladeless Wind Turbine with Dimpled Surface** | |

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| 72 | Kombolcha Institute of Technology Wollo University, Dr. A. Venkata Satyanarayana, and Eskindir Demeke Geto<br><br>Amahara region, south wollo zone, kombolcha, Ethiopia. [ET] |  |
| 73 | Dr. A. Venkata Satyanarayana, and Eskindir Demeke Geto<br><br>Amahara region, south wollo zone, kombolcha, Ethiopia. [ET] | |
| 74 | Dr. A. Venkata Satyanarayana<br><br>Amahara region, south wollo zone, kombolcha, Ethiopia. [ET] | |
| 57 | The present invention relates to a turbine with hexagonal dimple surfaces positioned at specific angular intervals around the turbine mast. These dimpled surfaces are strategically configured to improve airflow interaction, thereby increasing power generation efficiency. The turbine assembly includes a mast (1) with hexagonal dimple surfaces surface (2), an interior structure containing a compression spring (3), and a support stand (4). This configuration optimizes structural stability and enhances the turbine's overall aerodynamic performance, providing an effective solution for maximizing energy output of the rotational turbines. | |

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| 11 | **1185** |
| 21 | ET/UM/2023/4378 |
| 22 | 31/10/2023 እ.ኤ.አ. |
| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** |
| 45 | 15/01/2025 እ.ኤ.አ. |
| 51 | **A 21B 5/00(2006.01)** |
| 54 | **ተጣጣፊ የግድግዳ ላይ ተለጣፊ አውቶማቲክ የእንጀራ መጋገሪያ ምጣድ** |
| 72 | **ኢ/ር እንዳሻው ሻንቆ [ኢት]** |
| 73 | **አማሔ ማኑፋክቸሪንግ ኃ.የተ.የግ. ማ<br><br>ለሚ ኩራ ክፍለ ከተማ፣ ወረዳ 09፣ የቤት ቁጥር አዲስ፣ አዲስ አበባ - ኢትዮጵያ** |
| 74 | **ዮሐንስ አየለ ብሩ [ኢት]** |

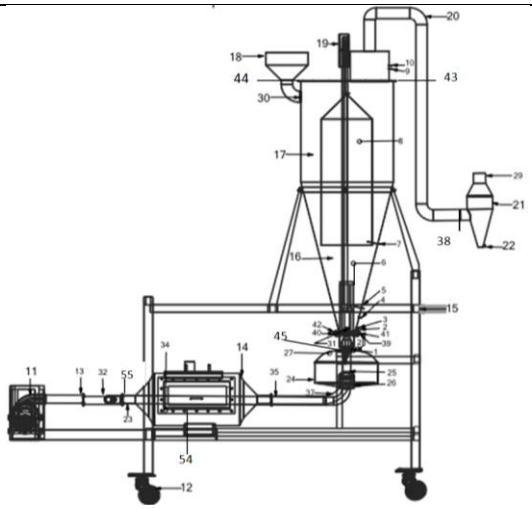



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| 57 | **ይህ ፈጠራ አውቶማቲክ እጀራ መጋገሪያ ማሽን ሆኖ ግድግዳ ላይ ተለጣፊ ሲሆን ከሥዕል-1 እስከ-5 እንደተመላከተው፤ (1) አክንባሎ (2) የሙቀት ብከነት መከላከያ ማፈኛ (3) ግድግዳ ላይ ተለጣፊ የብረት ፍሬም (4) የአክንባሎ ማጠፊያ (5) ተጣጣፊ የብረት ፍሬም (6) አውቶማቲክ ማብሪያና ማጥፊያ (7) ምጣዱን ግድግዳ ላይ ሲለጠፍ የባህላዊ አገልግል ማንገቻ ሰንሰለት (8) የአክንባሎ መያዣ እጀታ (9) የሽክላ ምጣድን ያመላክታሉ፡፡** |

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| 11 | **1186** |
| 21 | ET/UM/2022/4100 |
| 22 | 18/08/2022 እ.ኤ.አ. |
| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** |

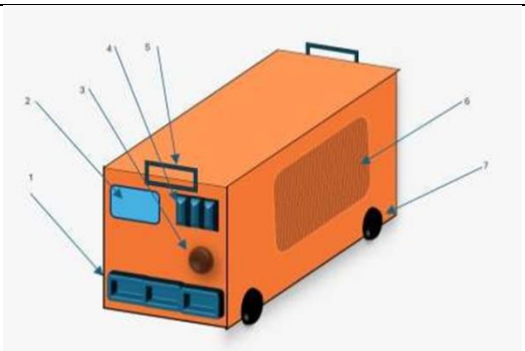
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| 45 | 27/01/2025 እ.ኤ.አ. |
| 51 | A 23N 12/10(2006.01) |
| 54 | MULTI-CROP ROASTING MACHINE |
| 72 | Obsinan Birri Neda<br><br>Oromia Region, Sheger City, Woerda Muda Furi [ET]; |
| 73 | Obsinan Birri Neda<br><br>Oromia Region, Sheger City, Woerda Muda Furi [ET]; |
| 74 | |




| | |
|---|---|
| 57 | The present invention relates to a turbine with hexagonal dimple surfaces positioned at specific angular intervals around the turbine mast. These dimpled surfaces are strategically configured to improve airflow interaction, thereby increasing power generation efficiency. The turbine assembly includes a mast (1) with hexagonal dimple surfaces surface (2), an interior structure containing a compression spring (3), and a support stand (4). This configuration optimizes structural stability and enhances the turbine's overall aerodynamic performance, providing an effective solution for maximizing energy output of the rotational turbines. |

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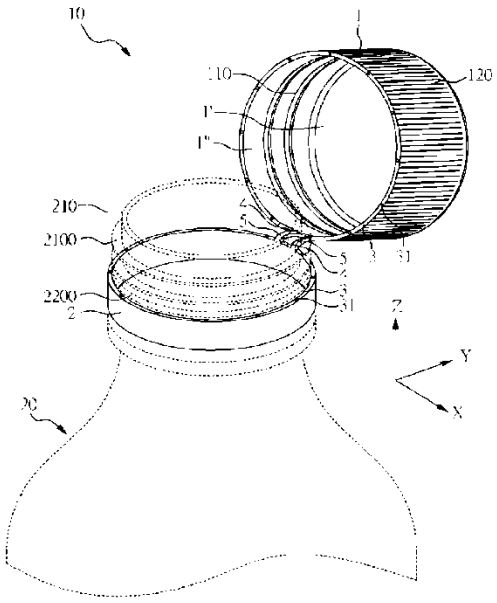
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| 11 | 1187 |
| 21 | ET/UM/2024/4547 |
| 22 | 29/05/2024 እ.ኤ.አ. |

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| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** |  |
| 45 | 06/02/2025 እ.ኤ.አ. | |
| 51 | **H 02J 7/14(2006.01)** | |
| 54 | **Portable Biogas Digester with a Mixer** | |
| 72 | Fedesa Shuma Tasisa<br><br>Oromia Region, Wollega Zone, Dembi Dolo Woreda, House No. New [ET]; | |
| 73 | Fedesa Shuma Tasisa<br><br>Oromia Region, Wollega Zone, Dembi Dolo Woreda, House No. New [ET]; | |
| 74 | | |
| 57 | The Power Generator is a portable, eco-friendly energy solution featuring advanced Lithium-ion batteries, three-phase power output, EV charging, Wi-Fi regeneration, SMS control, and seamless compatibility with renewable energy sources. It ensures efficient power management, mobility, and reliability for diverse applications, from households to industrial operations /1/ Outlet Socket/2/ LCD Display /3/ Electric Vehicle Charge /4/ Circuit Breaker and Switches 5/ Hand Grip 6/ Air Inlet /7/ Tires /8/ AC and DC Input /9/ RJ45 and RJ11 Ports /10/ Fan. | |

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| 11 | **130** | |
| 21 | ET/P/2018/420 | |
| 22 | 27/02/2018 እ.ኤ.አ. | |

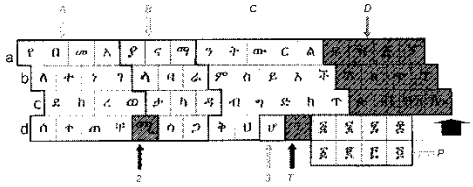
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| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** |
| 45 | 14/01/2025 እ.ኤ.አ. |
| 51 | **B 65D 55/16(2006.01)** |
| 54 | MANUFACTURE OF CAP FOR CONTAINER |
| 72 | MAGUIRE, Michael,<br><br>286 LAke Dr. San bruno, California 94066, U.S.A [US] |
| 73 | MAGUIRE, Michael,<br><br>286 LAke Dr. San bruno, California 94066, U.S.A [US] |
| 74 | Wabath Daoud,<br><br>Addis Ababa-Ethiopia [ET]; |




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| 57 | A cap for a container is formed so that the cap has a top plate and a circular sidewall. Two opposite sides of the circular sidewall circularly connect to each other, one periphery of the circular sidewall connecting to one surface of the top plate forming a closed end, and another periphery of the circular sidewall at an opposite side of the closed end forms an opened end. Incision lines are in the circular sidewall. The incision lines form a ring member located at the opened end of the cap separated from a main body of the cap by a first incision line in between the opened end of the main body and the ring member. The ring member is connected to the main body by a plurality of connecting portions. |

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| 11 | **131** |
| 21 | ET/P/2015/288 |
| 22 | 29/06/2015 እ.ኤ.አ. |
| 30 | **የማመልከቻ ቀን የቀደምትነት ቀን ነው** |
| 45 | 05/02/2025 እ.ኤ.አ. |
| 51 | **G 06F 3/02(2006.01),**<br>**G 06F 3/00(2006.01)** |
| 54 | DEVICE DESIGNED TO MAKE IT EASIER TO TEACH THE AMHARIC LANGUAGE AND STANDARDISE ITS SCRIPT |
| 72 | GILLES TUGENDHAT,<br><br>91 rue Jouffroy d'Abbans, 75017 Paris [FR]; |
| 73 | ADN Access Data Networks,<br><br>4 route du basin No. 1, 92631 Gennevilliers [FR]; |
| 74 | WOSSEN TESHOME BOKAN,<br><br>3rd Floor, YeEnat Building, Piazza, P.O. Box:- 100311, Addis Ababa [ET]; |



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|---|---|
| 57 | The purpose of the present invention is to create a device that will make it easier to teach the Amharic language and standardize the way in which it is |

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| | written. The device consists of a computer keyboard that has been adapted for communication and printing in the Amharic alphabet. This computer keyboard consists of a set of keys like those on any other keyboard. Pressing a key sends a specific encoded signal to the computer that enables the printing of the alphanumeric character associated with that key. The keyboard is thus an entry peripheral for the computer and is combined with a matrix network consisting of a set of lines and columns that make it possible to identify each of the keys. |

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(19) የኢትዮጵያ አዕምሮአዊ ንብረት ባለሥልጣን Ethiopian Intellectual Property Authority

ET00UM1138B1

(11) **የፖተንት ቁጥር: ET UM 1138B1**
**Publication No:**

(45) **ፖተንት የተሰጠበት ቀን: 30/04/2016 ዓም**
**Publication Date: 09/01/2024 GC**

(12) **Ethiopian Utility Patent**

(54) **A Method of Making Prefabricated cement flue plate manufacturing and its mold.**

(71)Applicant: **CCCC FIRST HIGHWAY ENGINEERING CO., LTD,**

(72) Inventors: **Zhao Qi , Xu Zhihong, Li Yongsong , Rao Xianjin, Wang Huan and Bu Yingjie**

(21) Appl. No.: ET/U/2022/4061

(22) Filed: 24/06/2022

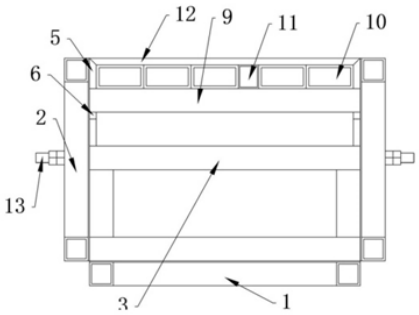
(30) Priority Date: 24/06/2022

(51) IPC: **B 28B 1/30**(2006.01), **B 28B 7/18**(2006.01), **B 28B 23/00**(2006.01)

(57) **Abstract**

This invention relates to A Method of Making Prefabricated cement flue plate manufacturing and its mold, comprising steps of: removing the top mold and unfolding the side mold (2) to lay flat, laminating the inner mold and the side mold (2), applying a release agent on the surface of the inner mold, spreading cement mortar on the plastic film, laying the grid cloth, spreading the mortar for the second time, corner folding, mold closing, laying the top mold, top mold overlay, top molding over mortar, folding the mesh fabric, top molding the mortar for a second time, removing after 12 hours, when the cement mortar strength reaches above 8 MPa, first remove the tie bolts (13), then take out the top mold support tube 9, then remove the first top mold composition tube (10), the second top mold composition tube (11) and the third positioning square steel (12) in turn, then unfold the side mold (2) and take out the finished prefabricated cement flue plate (14), maintenance, after the finished cement flue plate member (14) is made, is sprinkled with water and maintained for seven days. Using this method, different sizes of cement flue panels can be made, using different sizes of production molds.

**2 Claims**



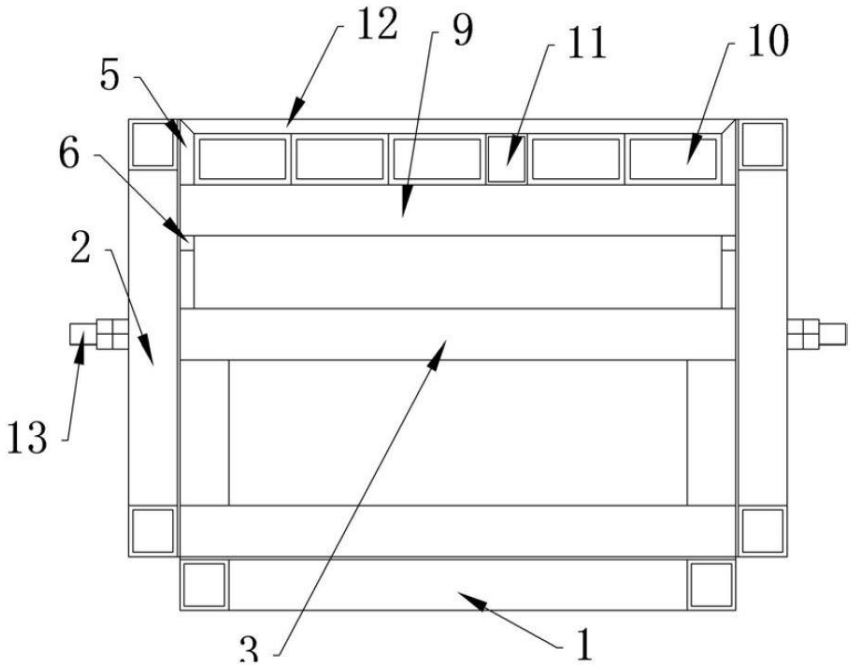



**Fig. 1**

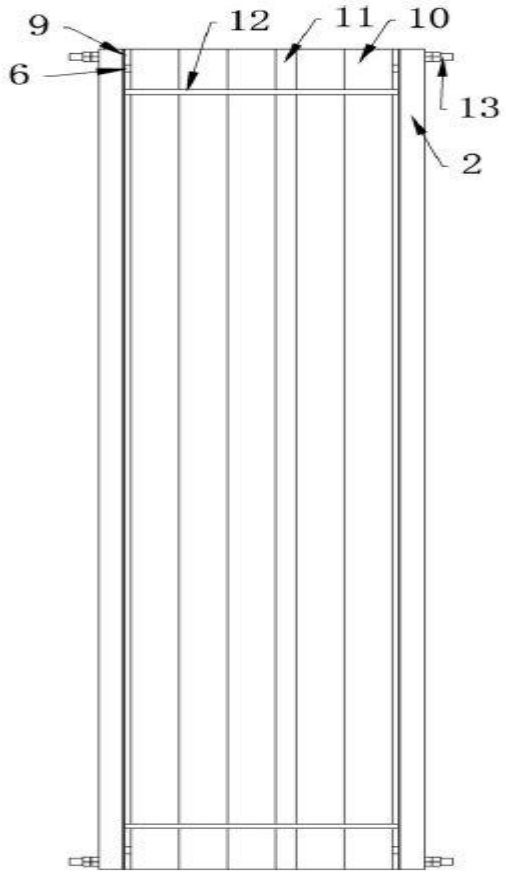



**Fig. 2**

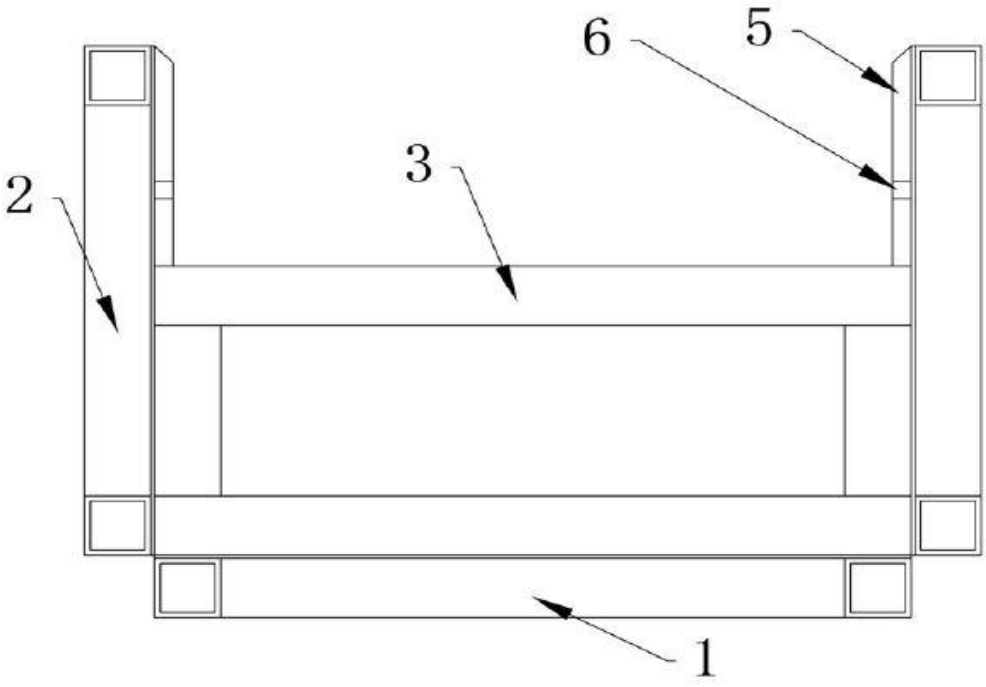



**Fig. 3**

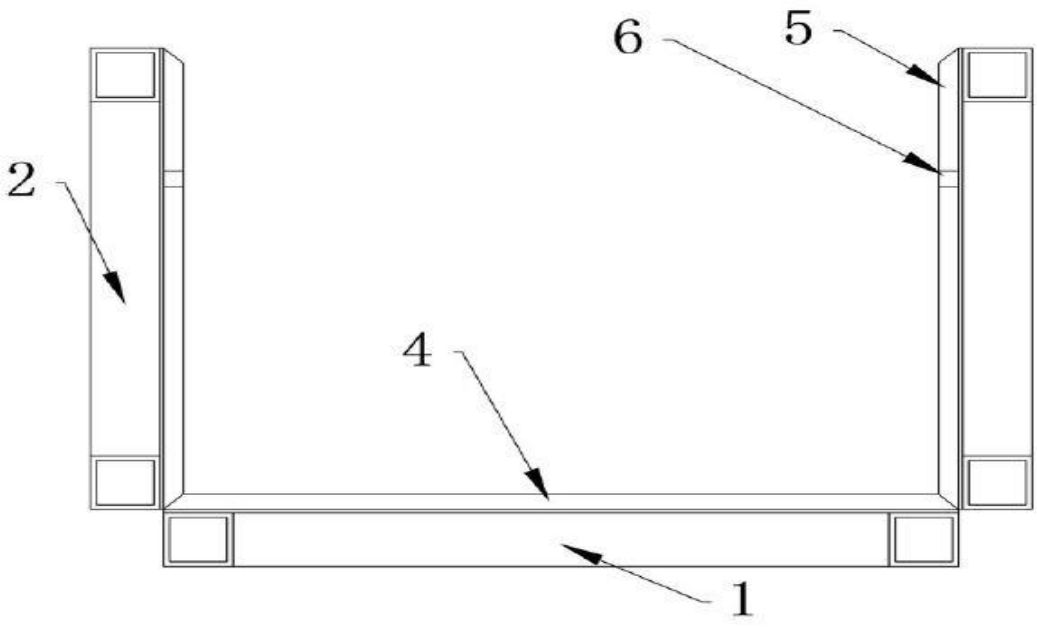



**Fig. 4**

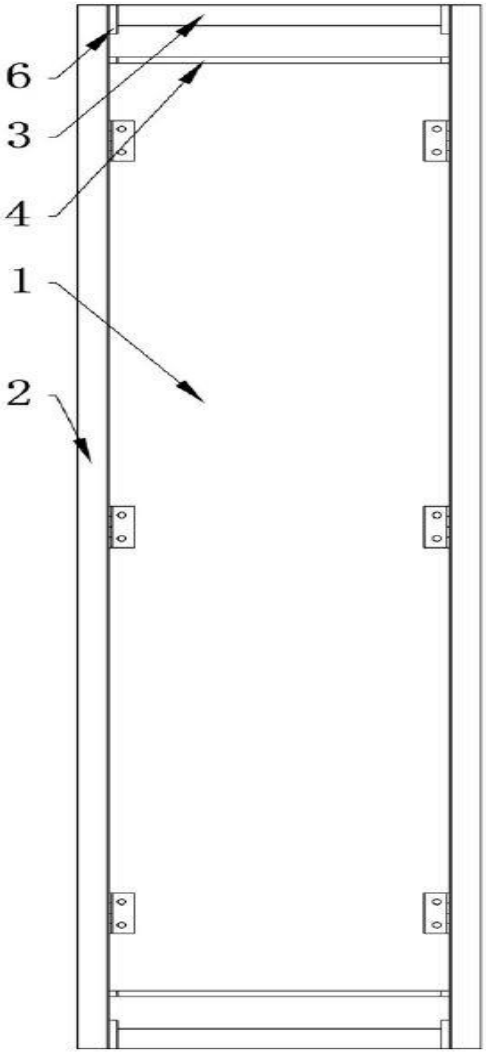



**Fig. 5**

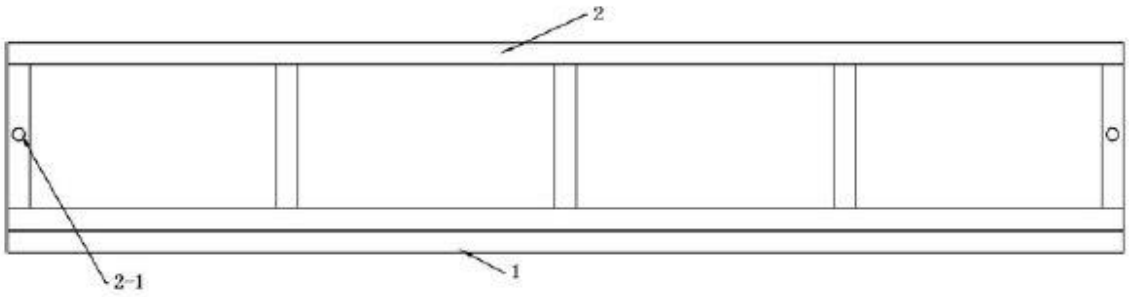



**Fig. 6**

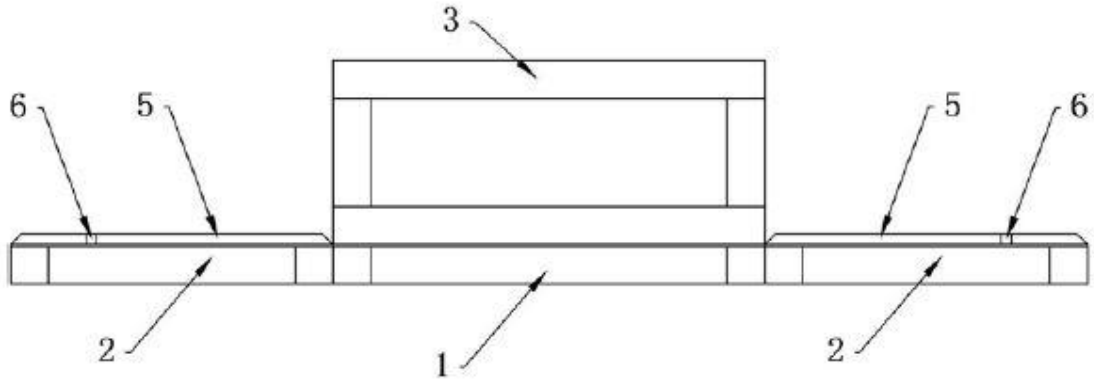



**Fig. 7**

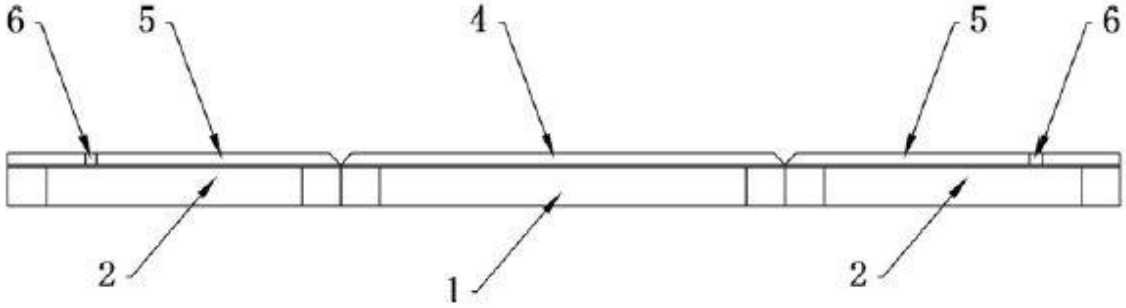



**Fig. 8**

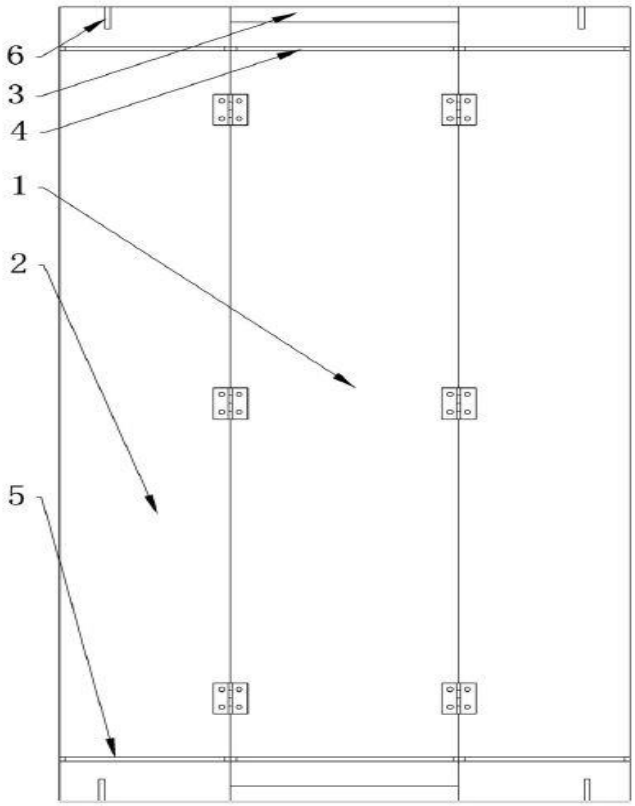



**Fig. 9**

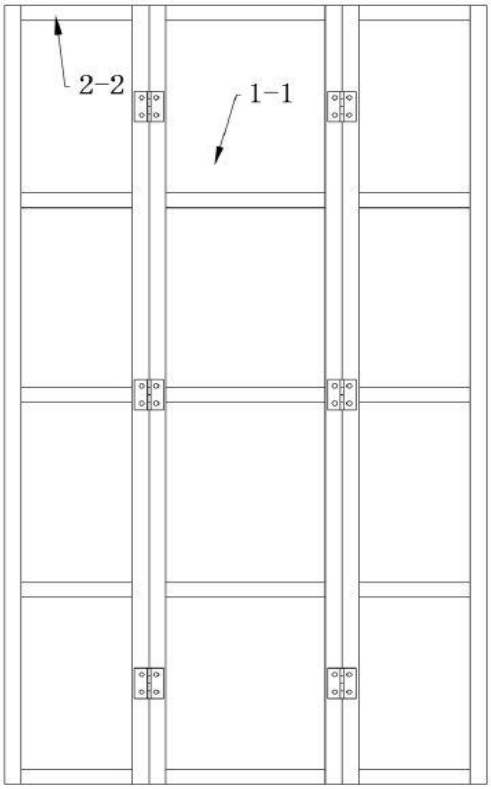



**Fig. 10**

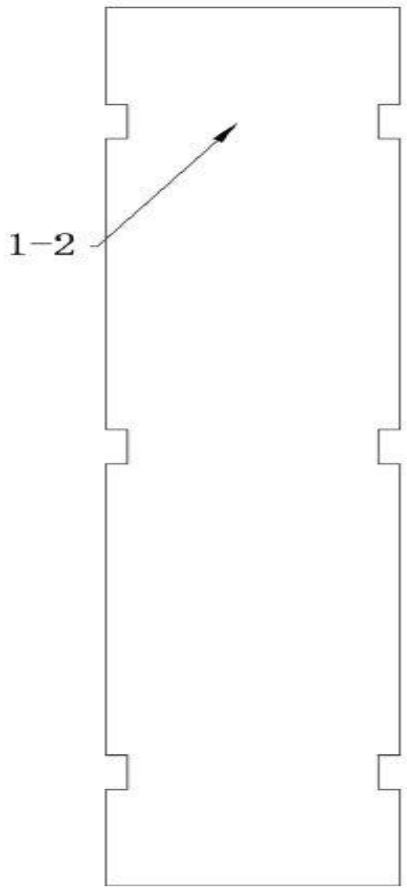



Fig. 11

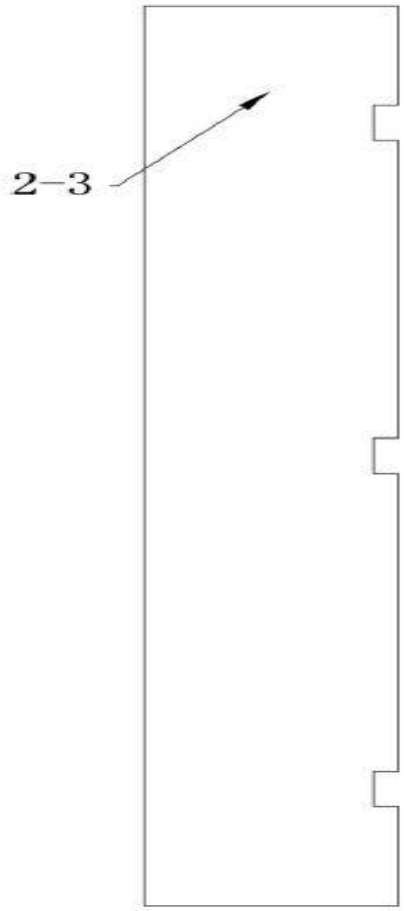



Fig. 12

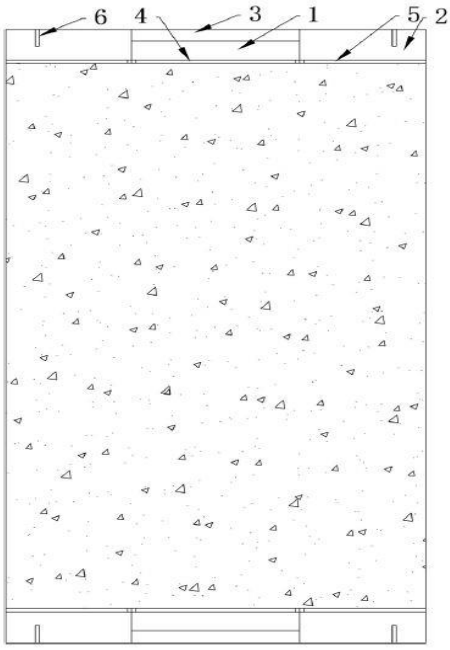



Fig. 13

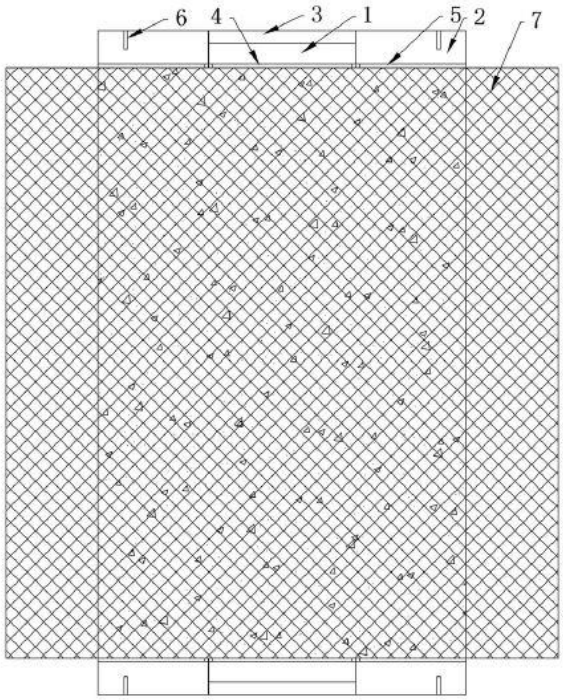



**Fig. 14**

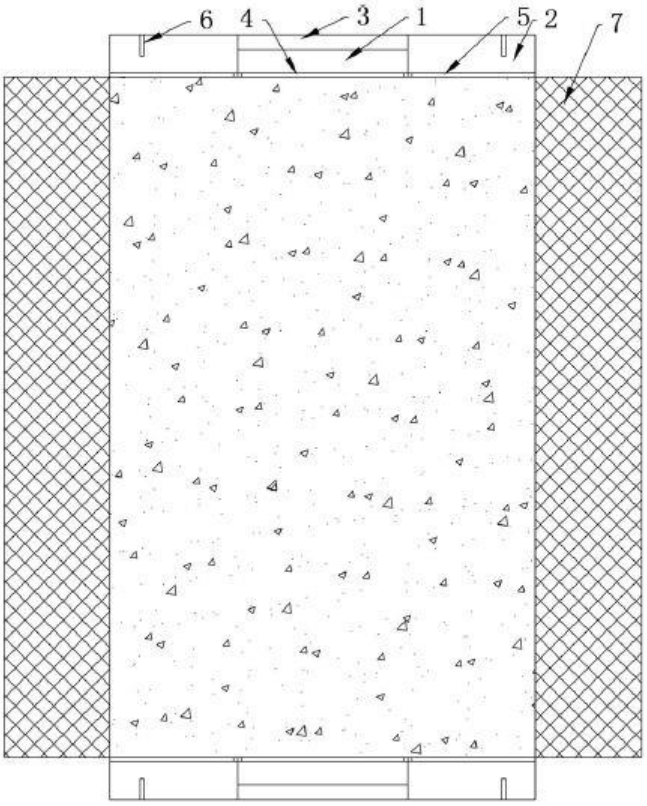



**Fig. 15**

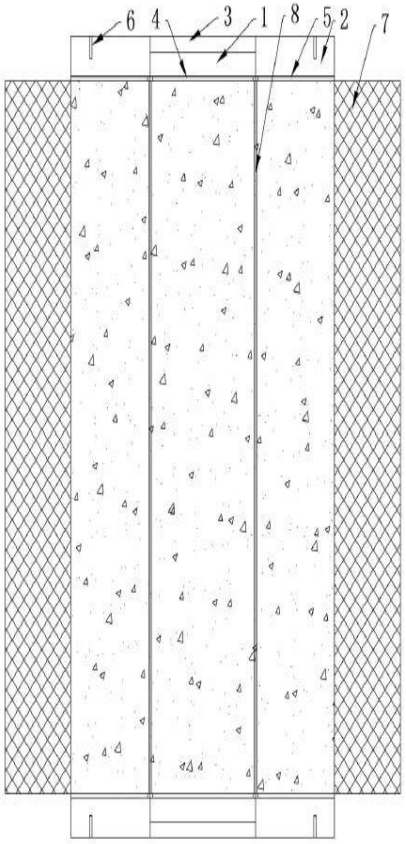



**Fig. 16**

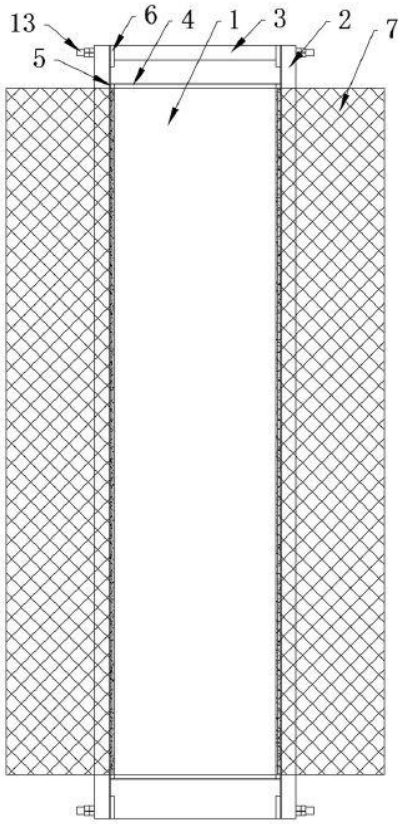



**Fig. 17**

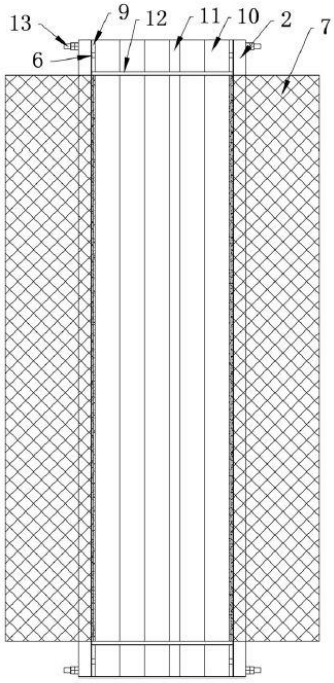



**Fig. 18**

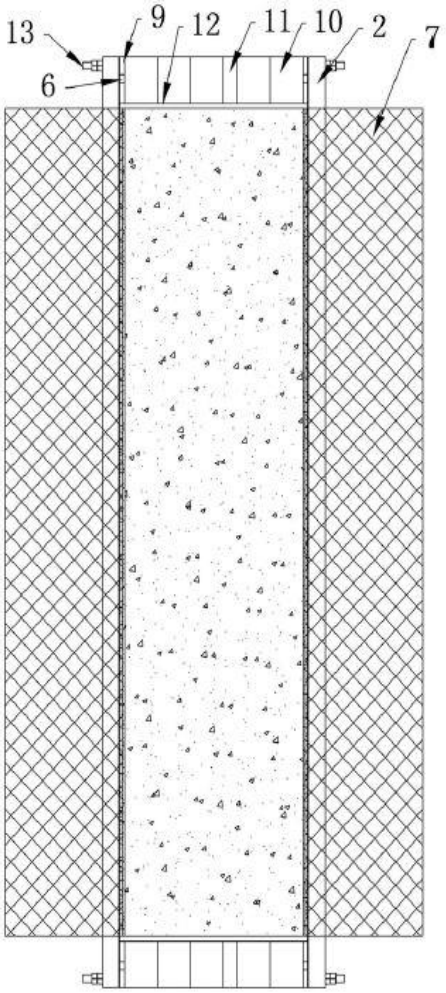



**Fig. 19**

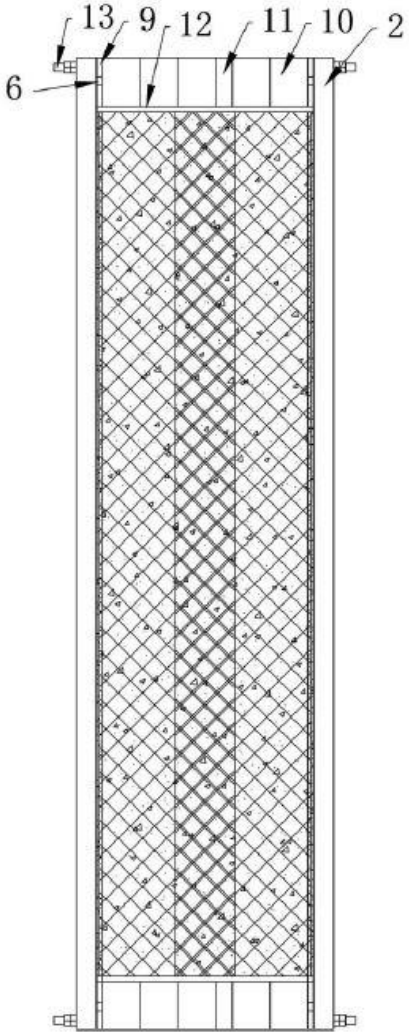



**Fig. 20**

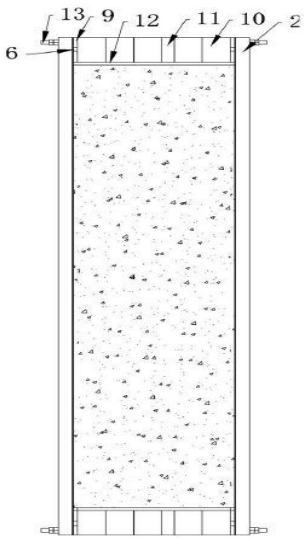



**Fig. 21**

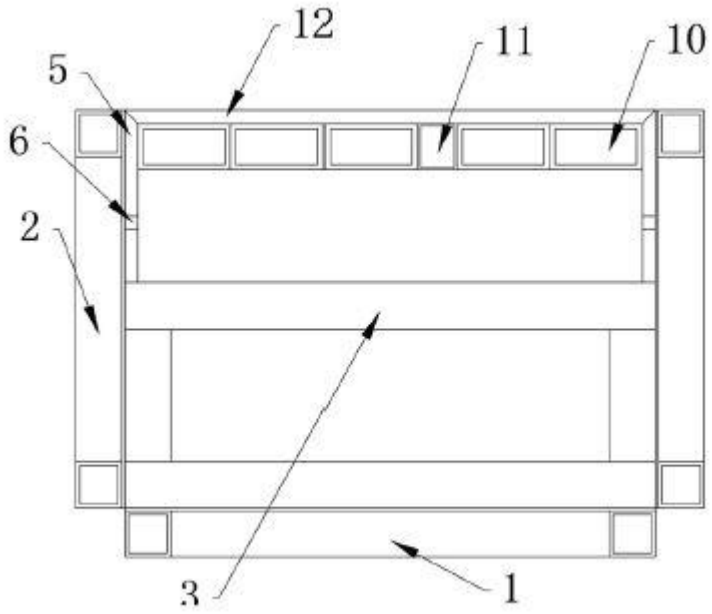



**Fig. 22**

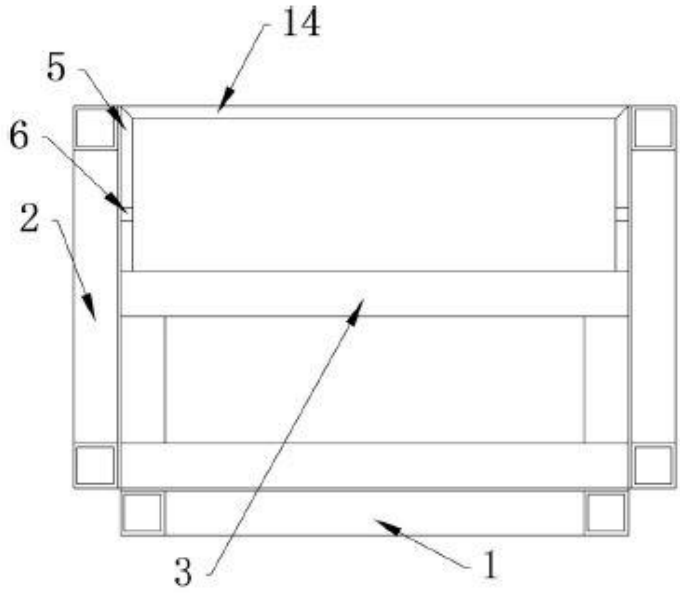



**Fig. 23**

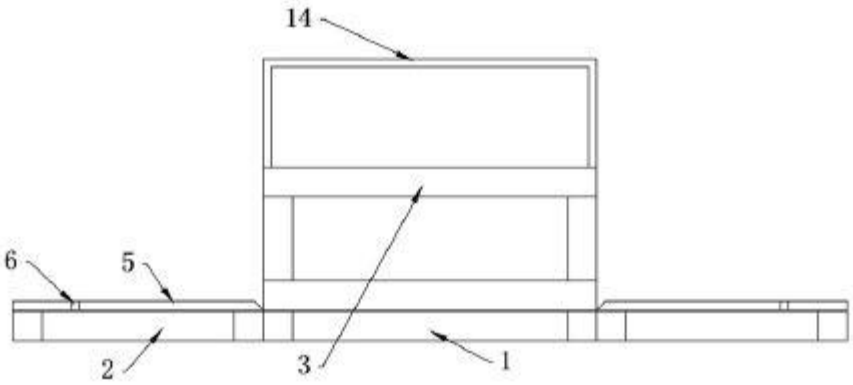



**Fig. 24**

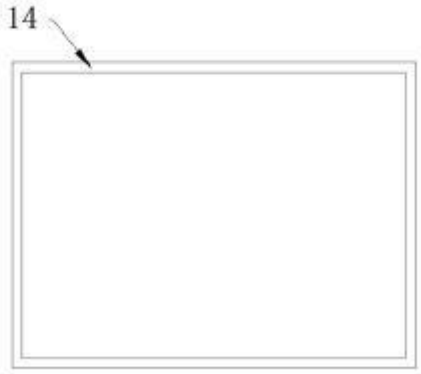



**Fig. 25**

**Drilling rack for ensuring smooth blasting effect of roadbed**

# Description

## Field of the Invention

The invention belongs to the technical field of construction devices, specifically relates to a drilling table for ensuring the effect of roadbed light surface blasting.

# Background of the Invention (Prior Art)

For China to expand and deepen the needs of opening up to the outside world, China's housing construction field in Africa is also expanding, and there is no set of mature construction process for prefabrication and installation of flue in Africa, the construction process of flue in Cameroon region mainly includes, iron flue process, masonry flue process, cement board flue process, and the construction process of combined application of several methods.

**Tin flue process.**

That is, the use of white tin material to make a construction process of the flue, is to install the prefabricated tin to the location of the reserved hole reinforcement. This construction process is generally not high requirements for the use of housing, installation speed, but the tin flue in the use of the process is very easy to seal and oil leakage problems, difficult to deal with later, and the tin material high temperature resistance, corrosion resistance is poor, the use of the process of frequent replacement of the owner, easy to cause increased maintenance costs later.

**Masonry flue process.**

That is, a construction process using small hollow brick masonry blocks to build the flue is to use prefabricated hollow bricks on site to build the flue, and later plastering treatment. This construction method is also the most common construction method in Cameroon, high temperature resistance, no oil leakage problems, but the biggest drawback of the process is that it takes up a lot of space and higher costs.

**Cement board flue process.**

That is, the cement board is prefabricated in advance, and after the main construction is completed, the site is assembled by self-tapping nail connection. Later plastering treatment. This construction method is also a relatively new construction process in Cameroonian countries, light and thin, convenient, prefabricated cost bottom, but the process is cumbersome, the site installation of verticality is difficult to grasp, for better fit, processing, the details of the prefabricated panels require strict processing.

The above three construction processes have their own advantages and disadvantages, but all three construction processes cannot simultaneously take into account safety, quality, schedule, cost and other issues.

In order to be able to improve the speed of construction and to take into account the cost quality and safety, we designed a mold for the fabrication of precast cement flue plates.

# Objective of the Invention

In order to solve the above technical problems, the utility model provides a precast cement flue plate making mold.

A precast cement flue plate making mold, including a bottom mold, a side mold and a top mold enclosing a rectangular cavity, said side mold is two and the bottom is hinged to the left and right sides of the bottom mold by hinges, said front and rear ends of the bottom mold are fixed with rectangular structure of side frames, two side molds are connected with tie bolts through the side

frames, said upper surface of the bottom mold is fixed with first positioning square steel near the front and rear ends and set along the width direction, said inner surface of the side mold is fixed with first positioning square steel near the front and rear ends and set along the width direction. said first positioning square steel is fixed on the upper surface of the bottom mold, said second positioning square steel is fixed on the inner surface of the side mold near the front and rear ends and along the width direction, said support square steel is also fixed on the inner surface of the side mold located on the outside of the second positioning square steel and near the upper edge, said support square steel is placed above the top mold support tube, said front and rear ends of the top mold are placed on the top mold support tube.

Preferably, said top die comprises at least two first top die composition tubes of wider dimensions and one second top die composition tube of narrower dimensions, said second top die composition tube being located in the middle, said first top die composition tube being distributed on both sides of the second top die composition tube and closely fitted. Said first top die composition tube is distributed on both sides of the second top die composition tube and fits closely together, said top die further comprising a third positioning square steel which is articulated with the second positioning square steel at both ends and is freely movable.

Preferably, said first locating square, said second locating square and said third locating square are all straight and symmetrical at both ends, said first locating square, said second locating square and said third locating square having the same cross-sectional dimensions and having 45° bevels at both ends.

Preferably, said bottom die comprises a bottom die frame and a bottom die panel, said bottom die frame being a rectangular frame with a cross support in the middle, said bottom die panel being fixed above the bottom die frame and having rectangular notches on both sides to avoid hinges. Preferably, said side mold includes a side mold frame and a side mold panel, said side mold frame is a rectangular frame with a horizontal support in the middle, said side mold panel is fixed on the inner side of the side mold frame and the bottom is provided with a rectangular notch to avoid the hinge.

The beneficial effect of the utility model is that.

The utility model is simple to make, using the construction site commonly used pipe, plate, square steel and other materials, the structure is simple and practical, especially the top mold using the first top mold composition tube and the second top mold composition tube spliced together, easy to remove.

The first positioning square steel, the second positioning square steel and the third positioning square steel are set in this mold, which can control the production length of the flue plate and the thickness of the cement paving, while the supporting square steel provides support points and positioning points for the top mold.

## Brief Description of the Drawing

FIG. 1 is a schematic diagram of the main view structure of the utility model.

FIG. 2 is a schematic diagram of the top view structure of the utility model.

FIG. 3 is a schematic diagram of the structure in FIG. 1 when the top die is removed

FIG. 4 is a schematic diagram of the structure in FIG. 3 with the side frames removed

FIG. 5 is a schematic diagram of a top view of FIG. 3

FIG. 6 is a schematic side view of FIG. 3.

FIG. 7 is a schematic diagram of FIG. 3 when the side mold is unfolded

FIG. 8 is a schematic view of FIG. 4 with the side mold unfolded

FIG. 9 is a schematic view of the side mold in FIG. 5 when it is unfolded

FIG. 10 is a schematic view of FIG. 9 with the bottom die panel and the side die panel removed

FIG. 11 shows a plan view of the bottom mold panel.

FIG. 12 is a plan view of a side mold panel.

FIG. 13 is a schematic diagram of the construction of the utility model I; and

FIG. 14 is a schematic diagram II of the construction of the utility model

FIG. 15 is a schematic diagram of the construction of the utility model III;

FIG. 16 is a schematic diagram IV of the construction of the utility model

FIG. 17 is a schematic diagram of the construction of the utility model V.

FIG. 18 is a schematic diagram of the construction of the utility model VI.

FIG. 19 is a schematic diagram of the construction of the utility model VII.

FIG. 20 is a schematic diagram VIII of the construction of the utility model

FIG. 21 is a schematic diagram of the construction of the utility model IX;

FIG. 22 is a schematic diagram I of the utility model when the mold is dismantled

FIG. 23 is a schematic diagram II of the utility model when the mold is removed

FIG. 24 is a schematic diagram III of the utility model when the mold is removed.

FIG. 25 is a cross-sectional view of a finished cement flue board member.

## Detailed Description of the invention

For specific embodiments of the utility model, see FIGS. 1-24. In the figures: Bottom mold (1), Bottom mold frame (1-1), Bottom mold panel (1-2), Side mold (2), Perforation (2-1), Side mold frame (2-2), Side mold panel (2- 3), Side frame (3), First positioning square (4), Second positioning square (5), Support square steel (6), Fiberglass mesh fabric (7), Folded corner recess (8), Top mold support tube (9), The first top mold composition tube (10), Second top mold component tube (11), Third positioning square steel (12), Tie bolts (13), Finished parts (14).

The technical solution in this utility model embodiment will be clearly and completely described below in combination with the accompanying drawings in this utility model embodiment, in which the connection of each component is conventional connection, the top mold and the side mold (2) are welded when they are made, the top mold and the side mold (2) are connected to each other by hinges, the top mold is freely spliced, and the individual components of the top mold are not fixed, which will not be described in detail here.

The technical solutions of the utility model are a prefabricated cement flue plate making mold, as shown in Figures 1-12, including a bottom mold (1) enclosing a rectangular cavity, a side mold (2) and a top mold, the side mold (2) is two and the bottom is hinged on the left and right sides of the bottom mold (1) by hinges, the front and rear ends of the bottom mold (1) are fixed with a rectangular structure of the side frame (3), the two side molds (2) are connected with a tie bolt (13) passing through the side frame (3), the edge of the side mold (2) is provided with a perforation (2-1) for the tie bolt The upper surface of the bottom die (1) is fixed with a first positioning square (4) near the front and rear ends and along the width direction, the inner surface of the side die (2) is fixed with a second positioning square

(5) near the front and rear ends and along the width direction, the inner surface of the side die (2) is also fixed with a support square (6) located outside the second positioning square (5) and near the upper edge, and a top die support tube is placed above the support square (6) (9), the front and rear ends of the top die are placed on the top die support tube 9, the top die includes at least two first top die composition tubes (10) with wider dimensions and a second top die composition tube (11) with narrower dimensions, the second top die composition tube (11) is located in the middle, the first top die composition tube (10) is distributed on both sides of the second top die composition tube (11) and fits closely, the top die also includes two ends articulated with the second positioning square steel (5) and freely movable The first positioning square steel (4), the second positioning square steel (5), the third positioning square steel (12) are all symmetrical straight square steel at both ends, the first positioning square steel (4), the second positioning square steel (5), the third positioning square steel (12) have the same cross-sectional dimensions and are provided with 45 ° bevel at both ends.

As shown in FIGS. (3-5), (7-12), the bottom die 1 includes a bottom die frame (1-1) and a bottom die panel (1-2), the bottom die frame (1-1) is a rectangular frame with a central The bottom die (1-1) is a rectangular frame with horizontal support in the middle, the bottom die panel (1-2) is fixed above the bottom die (1-1) and is provided with rectangular notches on both sides to avoid hinges, the side die (2) includes the side die frame (2-2) and the side die panel (2-3), the side die frame (2-2) is a rectangular frame with horizontal support in the middle, the side die panel (2-3) is fixed on the inside of the side die frame (2-2) and is provided with rectangular notches on the bottom to avoid hinges.

The specific method of making prefabricated cement flue board in this utility model is.

Step 1, removing the top mold, as in Figure 9, removing the top mold and unfolding the side mold (2) to lay flat.

Step 2, laminating, applying a release agent on the surface of the inner mold and the side mold (2), followed by a layer of plastic film, the release agent facilitating the release of the mold after the flue is formed, the plastic film preventing the leakage of the slurry when it is folded, and laminating the cement mortar to maintain it and quickly reach the design strength.

Step 3, into the mold, as in Figure 13, spreading cement mortar on the plastic film, smoothing the cement mortar with a trowel, the thickness of the cement mortar is controlled at half the height of the first positioning square (4) and the second positioning square (5), i.e. the surface of the cement mortar is flush with the lateral centerline of the first positioning square (4) and the second positioning square (5).

Step 4, laying the grid cloth, as in FIG. 14, after smoothing the cement mortar, laying the glass fiber grid cloth (7) to the surface of the cement mortar, leaving a certain length on each side, the reserved length is less than the width of the bottom mold (1) and greater than 1/2 of the width of the bottom mold (1), the reserved length of the glass fiber grid cloth (7) is used as the lap length of the top surface at a later stage, the full laying of the glass fiber grid cloth (7) can effectively prevent cracking and breakage of the flue.

Step 5, spreading the mortar for the second time, as in Figure 15, continue spreading the cement mortar on the glass fiber mesh cloth (7), smoothing the cement mortar with a trowel so that the thickness of the cement mortar is the same as the height of the first positioning square steel (4) and the second positioning square steel (5), that is, the surface of the cement mortar is flush with the

surface of the first positioning square steel (4) and the second positioning square steel (5), ensuring that the glass fiber mesh cloth (7) is in the middle layer of the flue wall, which can effectively prevent the flue wall from cracking.

Step 6, corner folding, as in Figure 16, using a scraper to press out corner folding recesses (8) in the cement mortar at the joint between the bottom mold (1) and the side mold (2) to facilitate corner folding when the mold is closed.

Step 7, mold closing, as in Figures 3, 5, 17, when the strength of the cement mortar that has been paved reaches the initial setting (about three hours), the two sides of the side mold (2) are folded 90 ° to close the mold, and after closing the mold, the two sides of the mold (2) are positioned and reinforced with the buttress bolts (13).

Step 8, laying the top mold, as in Figures 1, 2, 18, placing the two ends of the top mold support tube (9) on the support square steel (6), then placing the two ends of the first top mold composition tube (10) on the support square steel (6), the first top mold composition tube (10) is placed close to the middle in order from both sides, and finally placing the second top mold composition tube (11) in the gap left by the first top mold composition tube (10), placing the third positioning square steel (12) so that the third positioning square steel (12) and the second positioning square steel (5) are connected, and placing a metal pressure block located on the outside of the third positioning square steel (12) above the top mold.

Step 9, top mold overlay, applying a release agent to the upper surface of the top mold, followed by a layer of plastic film.

Step 10, top molding over mortar, as in Figure 19, spreading cement mortar on the plastic film above the top molding, smoothing the cement mortar with a trowel, controlling the thickness of the cement mortar to half the height of the third positioning square (12), i.e. the surface of the cement mortar is flush with the lateral center line of the third positioning square (12).

Step 11, folding the mesh fabric, as in Figure 20, and folding the reserved glass fiber mesh fabric (7) upwards to cover the top of the cement mortar.

Step 12, top molding the mortar for a second time, as in Figure 21, continuing to spread the cement mortar over the glass fiber mesh fabric (7), smoothing the cement mortar with a trowel so that the thickness of the cement mortar is the same as the height of the third positioning square (12), i.e. the surface of the cement mortar is flush with the surface of the third positioning square (12).

Step 13, Removing, as in Figures 22-25, after 12 hours, when the cement mortar strength reaches above 8 MPa first remove the tie bolts (13), then take out the top mold support tube (9), then remove the first top mold composition tube (10), the second top mold composition tube (11) and the third positioning square steel (12) in turn, then unfold the side mold (2) and take out the finished prefabricated cement flue plate (14).

Step 14, maintenance, after the finished cement flue plate member (14) is made, is sprinkled with water and maintained for seven days.

Using the above method, different sizes of cement flue panels can be made, using different sizes of production molds, for example, a cement flue panel with dimensions of 300 mm * 400 mm * 1600 mm and a wall thickness of 10 mm, the overall length of bottom mold (1), side mold (2) and top mold is 1800 mm, the width of bottom mold (1) is 400 mm, the width of side mold (2) is 300 mm, the first positioning square steel (4), second positioning square steel (5), third party steel specification is 10mm*10mm, the distance between the

inner surface of the first positioning square steel (4), second positioning square steel (5) and the front and rear edges of bottom die 1 and side die 2 is 100mm, the distance from the upper surface of supporting square steel (6) to the upper edge of side die 2 is 80mm, the top die supporting tube (9) is a 35mm*35mm square tube, the first top die forming tube (10) is a 70mm*35mm rectangular tube, the second top die composition tube (11) is 35mm*30mm rectangular tube, the bottom die frame (1-1), the side die frame (2-2) and the side frame (3) are all made of 35mm*35mm square tube welded together, the bottom die panel (1-2) and the side die panel (2-3) are made of 2mm thick steel plate.

This invention can prefabricate cement mortar flue while the main construction, the mold making process is simple, involving local easy procurement of materials, on-site mixing mortar prefabricated flue, so the cost is economic; at the same time, the strength of the flue is guaranteed, on-site assembly is convenient, does not affect the plaster construction, safe and economic and eliminates the domestic procurement of shipping links, which can accelerate the construction progress.

## Clams

1. A process of Prefabricated cement flue plate manufacturing, comprising the step of:

**Step 1,** removing the top mold and unfolding the side mold (2) to lay flat;

**Step 2,** laminating, applying a release agent on the surface of the inner mold and the side mold (2), followed by a layer of plastic film, the release agent facilitating the release of the mold after the flue is formed, the plastic film preventing the leakage of the slurry when it is folded, and laminating the cement mortar to maintain it and quickly reach the design strength;.

**Step 3,** into the mold, spreading cement mortar on the plastic film, smoothing the cement mortar with a trowel, the thickness of the cement mortar is controlled at half the height of the first positioning square (4) and the second positioning square (5), i.e. the surface of the cement mortar is flush with the lateral centerline of the first positioning square (4) and the second positioning square 5;

**Step 4,** laying the grid cloth, after smoothing the cement mortar, laying the glass fiber grid cloth (7) to the surface of the cement mortar, leaving a certain length on each side, the reserved length is less than the width of the bottom mold (1) and greater than 1/2 of the width of the bottom mold (1), the reserved length of the glass fiber grid cloth (7) is used as the lap length of the top surface at a later stage, the full laying of the glass fiber grid cloth (7) can effectively prevent cracking and breakage of the flue;

**Step 5,** spreading the mortar for the second time, continue spreading the cement mortar on the glass fiber mesh cloth (7), smoothing the cement mortar with a trowel so that the thickness of the cement mortar is the same as the height of the first positioning square steel (4) and the second positioning square steel (5), that is, the surface of the cement mortar is flush with the surface of the first positioning square steel (4) and the second positioning square steel (5), ensuring that the glass fiber mesh cloth (7) is in the middle layer of the flue wall, which can effectively prevent the flue wall from cracking;

**Step 6,** corner folding, using a scraper to press out corner folding recesses (8) in the cement mortar at the joint between the bottom mold (1) and the side mold (2) to facilitate corner folding when the mold is closed;

**Step 7,** mold closing, when the strength of the cement mortar that has been paved reaches the initial setting (about three hours), the two sides of the side mold (2) are folded 90 ° to close the mold, and after closing the mold, the two sides of the mold (2) are positioned and reinforced with the buttress bolts (13);

**Step 8**, laying the top mold, placing the two ends of the top mold support tube (9) on the support square steel (6), then placing the two ends of the first top mold composition tube (10) on the support square steel (6), the first top mold composition tube (10) is placed close to the middle in order from both sides, and finally placing the second top mold composition tube (11) in the gap left by the first top mold composition tube (10), placing the third positioning square steel (12) so that the third positioning square steel (12) and the second positioning square steel (5) are connected, and placing a metal pressure block located on the outside of the third positioning square steel (12) above the top mold;

**Step 9,** top mold overlay, applying a release agent to the upper surface of the top mold, followed by a layer of plastic film;

**Step 10,** top molding over mortar, spreading cement mortar on the plastic film above the top molding, smoothing the cement mortar with a trowel, controlling the thickness of the cement mortar to half the height of the third positioning square (12), i.e. the surface of the cement mortar is flush with the lateral center line of the third positioning square (12);

Step 11, folding the mesh fabric, and folding the reserved glass fiber mesh fabric (7) upwards to cover the top of the cement mortar;

Step 12, top molding the mortar for a second time, continuing to spread the cement mortar over the glass fiber mesh fabric (7), smoothing the cement mortar with a trowel so that the thickness of the cement mortar is the same as the height of the third positioning square (12), i.e. the surface of the cement mortar is flush with the surface of the third positioning square (12);

Step 13, removing, after 12 hours, when the cement mortar strength reaches above 8 MPa first remove the tie bolts (13), then take out the top mold support tube (9), then remove the first top mold composition tube (10), the second top mold composition tube (11) and the third positioning square steel (12) in turn, then unfold the side mold (2) and take out the finished prefabricated cement flue plate (14);

Step 14, maintenance, after the finished cement flue plate member (14) is made, is sprinkled with water and maintained for seven days.

2. A Method of claim 1, where in the said prefabricated cement flue panels can be manufactured in different sizes, using different sizes of production molds.

* * * * **

***Inventors and those in creative fields seek protection for their works!***



**የአዕምሮ ውጤት የሆኑ የፈጠራ ሥራዎች እንደማንኛውም ቁሳዊ ንብረት ሀብቶች ናቸው!**


**አድራሻ**

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