

የኢትዮጵያ አዕምሯዊ ንብረት ባለስልጣን
ETHIOPIAN INTELLECTUAL PROPERTY AUTHORITY

የአዕምሯዊ ንብረት ጋዜጣ
INTELLECTUAL PROPERTY GAZETTE

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የአአምሯዊ ንብረት
ዕውቀትና ግንዛቤ
አንዲዳብር አንሰራለን።

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Ethiopian Intellectual Property Authority

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መግቢያ

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 16 **የተቃዉሞ ጥሪ የግልጋሎት ሞዴል ማስታወቂያዎች እና 4 ጥበቃ ያገኙ የግልጋሎት ሞዴል ስራዎች ሰርተፊኬት** ተስተናግደዋል፡፡

በተመረጡ የቴክኖሎጂ መረጃዎች አምድ /BIOMETRIC TURNSTILE GATE/ በሚል ርዕስ በፖተንት ሰነድ የታቀፈ የቴክኖሎጂ መረጃ በናሙናነት ቀርቧል፡፡

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

Introduction

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, 16 **Utility Model Cautionary notice abstracts and 4 Granted Utility Model** applications are made Public.

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

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 ተመቸው ደሴ አግማስ፣ ናሁ አስተርአየ ጽጌ እና ታሪኩ ሻረው ደምለዉ 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 Method of Preparing Ultrasound Gel from Aloe Vera (**ከእሬት የሚዘጋጅ የአልትራሳውንድ ጀል አሰራር ዘዴ**)ነው። ይህ ከአራት የሚዘገጅ የአልትራሳውንድ ጀል አሰራር ዘዴ ከተፈጥሮ እጽዋት እና ምንም አይነት የጎንዮሽ ጉዳት ከሌላቸዉ ንጥረ ነገሮች፣ በጀል መልክ የሚዘጋጅ የአልትራሳውንድ ምርመራ ለማድረግ የሚያገለግል ሲሆን በዋናነት የእፊት ተክሌ /Aloe Vera' ዳይ ሶዲየም ካርቦክሲ ሜታይል ሴሉሰስ /Carboxyl Methyl Sellose/፣ ሶዲየም ቤንዞይት /Sodium Benzoate/፣ ኢታይሊን ዳይ አማይን ቴትራ አሲቲክ አሲዴ/ Thylene Di Amino Tetra Acetic Acid/፣ ግላይሰሪን/Glycerine/፣ ሶዱየም ሃይዴሮኦክሳይድ /Sodium Hydroxide/ እና የተጣራ ውሃ /Distilled Water/ በመጠቀም የአልትራሳውንድ ጄል በሕክምና ምርመራዎች ውስጥ በተለይም የአልትራሳውንድ ሞገድችን በመጠቀም በታካሚው ቆዳ እና የአልትራሳውንድ ፕሮቭ /Ultrasound Prove/ መካከል ያለውን አየር በማስወገድ የአልትራሳውንድ ሞገድችን በብቃት ለማስተላለፍ እና ግልጽ የሆነ ምስል ለማሳየት የሚያስችል በጀል መልክ የሚዘጋጅ እና በመሳሪያዉ የሚታየዉን የአካል ክፍል በመቀባት የበለጠ ለመሳሪያዉ አጉልቶ የሚያሳይ አልትራሳዉንድ ጀል ነው፡፡

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አመልካች **ካሕሳይ ኃይለኪሮስ በየነ** ,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 **ከተለያዩ የእፅዋት አካላትና የተፍጥሮአዊ አፈር እና ውሃ በመጠቀም የሚዘጋጅ የኮምፖስት ማቀላጠፍያ ፈሳሽ** (Organic Compost Facilitator) **በመጠቀም በአስር ቀናት ውስጥ ኮምፖስት** (Compost-10) **ማዘጋጀት ነው**። ይህ ምርምር በአከባብያችን ከሚገኙ ማለትም እንደነ ድንች፣ የጫካ አፈር፣ የከብት ሽንት፣ የስኳር አገዳ ዝቃጭ እና ውሃ በመጠቀም የሚዘጋጅ ኮምፖስት (Compost-10) ነው።

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አመልካች **ካሕሳይ ኃይለኪሮስ በየነ** 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 Natural Pesticide and Disease Control /የተፈጥሮ ፀረ ተባይ እና ፀረ አዝርእት በሽታ/ ነው። ይህ ፈጠራ በአካባቢያችን ከሚገኙ ማለትም እንደነ የጃትሮፋ፣ መዳፈጣልያን /Argemon/ እና የማርያም ቅጠል /Glauca/ እፅዋቶች ፍሬ ቅባት (ዘይት) /Seed Oils/፣ የእንጨት ከሰል Wood Charcoal፣ ወይም፣ የቅባት ሰብሎች ዘይት /Seed Oils/፣ ከዲስቲሌሽን የሚገኙ ጠቃሚ የተፈጥሮ ዘይቶች /Essential Oils/ እና የዲስቲሌሽን ፈሳሽ ተረፈ ምርት Hydroso Or Herbal Solution/ በመጠቀም የሚዘጋጅ የተፈጥሮ ፀረ ተባይ እና ፀረ አዝርእት በሽታ /Natural Pesticide And Disease Control ነው::

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አመልካች መስፍን ወልደ ማርያም 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።

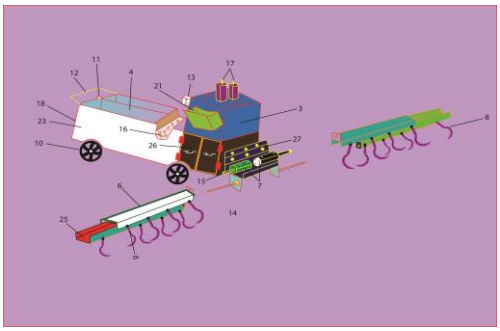
አነስተኛ ፈጠራው የጨጓራ፣ የአንጀት ቁስለት፣የሆድ ኢንፌክሽን እና የኪንታሮት መድኃኒት አዘገጃጀት ዘዴ ነው፡፡ ይህ ፈጠራ ጤንነትን የሚሰጥ የታመሙትን የሚያድን ለጨጓራ፣ ለአንጀት ቁስለት፣ ለሆድ ኢንፌክሽን እና ለኪንታሮት መድኃኒት የባሕል መድኀኒት የአዘገጃጀት ዘዴ ሆኖ በዋናነት ከጤሌንዥ ዕፅ የሚዘጋጅ በተጨማሪም ዕፀ ቆርጥም፣ እንቧጮሆ አንድ ላይ በመቀመምና በማዋሐድ በስተመጨረሻም አጠቃቀሙ በማር፣ በአጃና በገብስ በሶ የሚዘጋጅት መድኀኒት ነው፡፡

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አመልካች **አሰፋ አባዲ** 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 **ተንቀሳቃሽ አውቶማቲክ የእህል ሰብል ማጨጃና መውቅያ ማሽን ነው።** ይህ ፈጠራ ፈጣን ተንቀሳቃሽና አውቶማቲክ የደረሰ የእህል _ ሰብል መውቅያ ማሽን ሲሆን በውስጡም ዋናው አንቀሳቃሽ የኤሌትሪክ ሃይል የሚሰጠን Singl phase(22ov) Generater/1/ዋናው የንፋስ ሀይል አንቀሳቃሽ 220v Compresor machine /2/ የእህል መውቂያ ክፍል ጎተራ /4/ የቀኝ ማጨጃ ክፍል /5/ የግራ ማጨጃ ክፍል /6/ የግራና የቀኝ ማጨጃ አንቀሳቃሽ ሶሎኖይድ ቫልብ /7/ የታጨደው ወደ መውቂያ ክፍል ማስገቢያ ያለው ሆኖ የተገጠመለት ኤለክትሪክና የንፋስ ሀይል ማሽን አማካኝነት በፍጥነት እና በጥራት ማጨድና መውቃት የሚችል ነው።



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አመልካች ሜላት አሰራት እጅጉ 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 reparation Methods of Immune-Boosting Edible Superfood See Moos Gel **(በሽታ የመከላከል አቅም ያለው እና ለምግብነት የሚውል ሲሞስ ጄል አዘገጃጀት ዘዴ)** ነው ፡፡ ይህ ፈጠራ በሽታ የመከላከል አቅምን ከፍ ለማድረግ 92 ማዕድናት እና ቫይታሚኖች በውስጡ የሚይዝ በመልቲ ቫይታሚን የተሞላ ተፈጥሮአዊ የባህር ተክል፣ ሲሆን የአዘገጃጀት ዘዴ ሆኖ በዋናነት ጥሬ ሲሞስ፣ ሎሚ እና የተጣራ ንጹህ ውሃ በመደበላለቅ በመፍጨት ወደ ጄልነት መቀየር እንዲሁም የሲሞስ ፓውደር አዘገጃጀት ሲሞስን በንጹህ ውሃ አጥቦ፣ አድርቆ፣ በመፍጨት በዱቄት መልክ በማዘጋጀት፣ ሲሞስን እንደ ግብአት ለቅባቶች፣ ለትሪትመንተ መጠቀም፡፡

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አመልካች አቶ ሲራጅ ኡመር አህመድ 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 ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Man-made clay brick making machine /በሰው እጅ የሚሰራ ተገጠጠሚ የአፈር ጡብ ማምረቻ ማሽን ነው። ይህ ፈጠራ በሰዉ እጅ የሚሰራ ተገጣጣሚ የአፈር ጡብ ማምረቻ ማሽን ሁኖ በዋናነት አጭር ቱቦ (1)፣የመጭመቂያ ረጅም ቱቦ ከእነ ሶኬቱ (2)፣የመጭመቂያ ሳጥንት ግጣም ወይም ሊድ(3)፣የአፈር ውህዱን ማፈኛ (4)፣ በሳጥኑ ገንለጎን ታሳሪዎች በቁጥር 2 ዘንግ የሳጥኑን የታችኛውንና ላይኛው ክፍል ማያያጣ (5)፣የአፈር ስሚንቶና ጥቂት ውሃ ውህዱን ምንሞላበት ሳጥን ወይም ሞልድ (6)፣የሳጥኑን መጠን እንደምንጠቀመው የአፈሩ አይነትና ይዘት ማስፊያና ማጥበቢያ አሳሪ ብሎን (7)፣ፒስተኑንና የሶኬት ትቦ ማሰሪያ (8) እና በቁጥር 2ፒስተኖች ሁነው ግጣሙ ላይ ካለው ግማሽ ክብ ጎድጓዳ ተሰኪ ፒስተን (9) የያዘ ሲሆን 90-957 አፈር እና 5-10ኔ ስሚንቶ በሆነ ምጥጥን በማንዋል ወይም በሰዉ እገዛ ተሰካኪ የአፈር ጡብ ማምረቻ ማሽን ነው።

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አመልካች Kibrom Habtom Gebre Tsadik 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 ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Production of the same products as materials needed for construction with surplus material/በተረፈ ምርት ማቴኔላ ብሎኬት ለግንበታ የሚያስፈልጉ ግብዓቶችን ተመሳሳይ ምርቶችን ማምረት ነው። ይህ ፈጠራ ከዋይን፣ ከቢራ፣ ከአረቄና ከስኳር ፋብሪካ የሚወጣው ተረፈ ምርት በመጠቀም የሚመረት በተረፈ ምርት ማቴኔላ፣ ብሎኬት፣ ለግንባታ

የምያስፈልጉ ግብአቶችና ተመሳሳይ ምርቶች ማምረት ሲሆን በዋናነት ከዋይንና ከቢራ የሚገኘው ከሰል ጉሩ (coal guru)፣ ከአረቄና ከስኳር ፋብሪካ የሚገኘው ደሞ ሞላሰስ (molasses) ሞላሰስ ካልተገኘ በስሚንቶ ይተካል፣ ጠጠርና አሸዋ በመጠቀም የሚዘጋጅ ማቴኔላ፣ የአትክልት መትከያ፣ ብሎኬት፣ ለግንባታ የምያስፈልጉ ግብአቶች የተዋቡ የኮሪደር ማስደገፍያ፣ ለቤት የውጭ ግንባታ ማስዋብያና ሌሎች ተያያዥ ምርቶች ነው።

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አመልካች **ሳራ ይገረሙ አየለ** 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 ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Nutritious food prepared from grains and spices **(ከጥራጥሬ እና ከቅመማ ቅመም የተዘጋጀ ገንቢ ምግብ)** ነው። ይህ ፈጠራ የአእምሮ እና የሰውነት ጡንቻዎችን በማነልበት ከጥንት እስከአሁን ባለው የባህላዊና ዘመናዊ የአመጋገብ ሣይንስ እጅግ ከፍተኛ የሆነ የጤና በረከቶችን ለሰውነታችን እና ለውስጠኛው የሰውነት ክፍሎቻችን ወሳኝ እና አስፈላጊ በሆኑ ንጥረ ነገሮች የታጨቀ እና ረሃብን በማስታገስ በአንድ ምግብ እና በአንድ ጊዜ አመጋገብ ብቻ በቀን ውስጥ ሰውነታችን የሚያስፈልገውን በቂ ንጥረ ነገር ለሰውነታችን በመስጠትና የተለያዩ በሽታዎችን ለመከላከል የሚረዳ ከተለያዩ በሽታዎች ለመከላከል የሚረዳ ከተለያዩ ጥራጥሬ፣ ቅመማ ቅመሞች እና የእህል ዘሮች የተዘጋጀ ገንቢና ተጨማሪ ምግብ ነው።

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አመልካች Habtamu Gizachew Mazengia 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 ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Production Method of Feminine sanitary PADS, Paper and Cardboard ይህ ፈጠራ. Even though almost half of the world population is women, menstruation is seen as a taboo in many countries around the world. In **Ethiopia,** the attendance among adolescent girls in school is decreasing; girls even drop out of school due to the limited access to sanitary products such as menstruation pads. A banana becomes waste after the product is extracted. Due to this the fiber in its stem is also wasted. In order to make productive use of it this topic has been selected. The paper which is made solves multiple purposes. It can be used as a regular paper as well as it can be used as a wrapping material. It is also made water proof. This product is intended to substitute the harmful plastic products which are in use today. Women all around the world use sanitary napkins for menstrual protection. In **Ethiopia,** only small percentage of women uses sanitary napkins. The main reason for such a low number relates to the affordability of the people. Sanitary napkins that are available now are non-biodegradable and also cause severe infections there by affecting women s health.

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አመልካች Bekinew Kitaw Dejene 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 **Process of Making Functional Mesob For Injera Preservation** . The invention focused on the development of functional Mesob, a specialized packaging solution for injera, a traditional Ethiopian flatbread. Mesobs are produced by compositing Enset fibers (EFs) and zinc oxide nanoparticles (ZnO NPs) into a polylactic acid (PLA) matrix. The optimal composition was found to be 6.93% ZnO NPs and 6.43% EFs, which resulted in a highly effective Mesob that extended the freshness of the injera for over eight days. The antimicrobial and moisture-wicking properties of ZnO NPs and EFs, respectively, work synergistically to preserve the quality and shelf life of the injera. This extended shelf life achieved through new packaging technology contributes to the growing global recognition and accessibility of injera, a staple food in Ethiopian cuisine. The cost-effective and eco-friendly nature of Mesob packaging also makes it a sustainable solution for the widespread distribution and consumption of this traditional food,. .,.

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አመልካች Hibret Demissie Guracha 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 ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

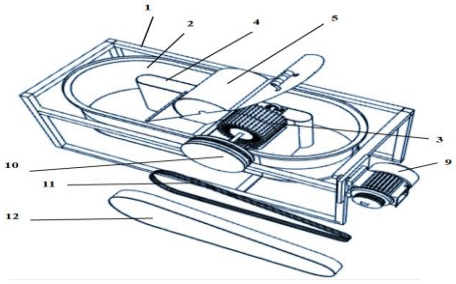
አነስተኛ ፈጠራው Method of converting Avocado-seed with the Kernel into biochar ነው፡፡ The purpose of this initiative is to promote the invention that provides a method for converting avocado-seed, once it was a waste into a biochar, now a potential resource for agronomic purpose including acid soil reclamation, and for household energy use. The special features of the invention also includes: the use of unwanted, discarded avocado-seed waste found in the municipal and food processing agro-industries into important resource. The method used a chain of steps from collection of feedstock to production of biochar. The method and operational techniques are selected on the basis of making rich in organic matter, nutrient content, and surface structure in avocado-seed, and need for organic acid soil reclaiming material, promote soil fertility, and, enhancing the overall agricultural productivity and for energy consumption. The production temperature is in a range of 300-700°C. After the biochar was produced, a series of tests and calculations were performed in greenhouse and field to evaluate its elemental composition, functional groups, and particle surface area, with the physical, chemical, and morphological characteristics, and acid soil reclaiming potential.

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አመልካች Medhanit Mamaye (Ph.D) and Aysheshim Tilahun 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 ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Hollander Beater Machine for Pulp Refining for Pulp Production from Fibrous Materials ነው፡፡ The present invention aims to provide pulp beater machine for obtaining refined pulp. The beater machine refines pulp produced from wood (hard wood and softwood) and non-wood (banana fiber, 'enset' fiber, sisal fiber, pineapple fiber, sugarcane bagasse, cotton, bamboo, recycle paper, etc). The machine includes the following components; body (Structure), tank, blade drum, water movement guiding partition, cover, wedge, adjustable blade set, adjusting bolt, motor, pulley, belt and belt protection cover. The machine refines the paper pulp as per the pulp type use and the refining level required by adjusting the space between the blade and wedge. In addition, the refining time is based on the paper pulp type, intended purpose and refining level required.

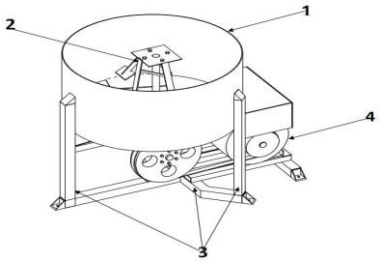


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አመልካች Habtamu Abera Teshome አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Composition and Method for Producing Vehicles Body ነው፡፡ The invention relates to a composite material for manufacturing vehicle bodies includes E-glass fibres (5% to 15% by weight), S-glass fibres (10% to 20% by weight), epoxy resin (30% to 40% by weight), syntactic fibre (5% to 15% by weight), and a hardener, Triethylenetetramine (TETA) (0.5% to 2% by weight). The hardener initiates a chemical reaction that converts the epoxy resin from a liquid to a solid without altering its chemical composition. A method for manufacturing the vehicle body, including selecting specific glass fibres, blending them with epoxy resin, curing the blend under heat and pressure, and forming the cured material into shapes designed for improved aerodynamics and structural integrity. The resulting composite material is moulded into various vehicle parts with internal reinforcement structures to enhance performance and efficiency.

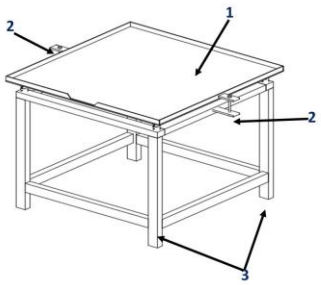


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አመልካች Bio and Emerging Technology Institute አጭር ይዘቱ ከታች ለተመለከተው አነስተኛ ፈጠራ የግልጋሎት ሞዴል የምስክር ወረቀት እንዲሰጣቸው የጠየቁ በመሆኑ ይህ አነስተኛ ፈጠራ የእኔ ነው ወይም ከዚህ በፊት በኢትዮጵያ ውስጥ ጥቅም ላይ ውሏል ባይ ካለ ይህ ማስታወቂያ በጋዜጣ ከወጣበት ቀን ጀምሮ ባሉት ስልሳ (60) ቀናት ውስጥ የተቃውሞ ማመልከቻውን ለኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን ሊያቀርብ የሚችል መሆኑን እየገለጽን ባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Method for Extraction of Avocado Oil ነው፡፡ The present invention discloses a mechanical pressing method for extracting high-quality avocado oil with a focus on maximizing yield, minimizing energy and water consumption, and eliminating the use of chemicals. The method comprises pretreatment (sorting and washing), peeling, destoning, mashing the pulp, drying at 40-60°C, mechanical pressing using a either of screw or hydraulic pressing, filtration with a pore size of 1-10 microns, and packaging with minimal exposure to light and air. The resulting avocado oil exhibits excellent quality parameters, such as peroxide value less than 15 meq/kg, acid value less than 4 mg KOH/g, soap content less than 0.002% by mass, moisture and volatile matter less than 0.22% by mass, insoluble impurities less than 0.03% by mass and saponification value less than 198%.



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አመልካች **ደረጀ ወ/ዮሐንስ** 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 እየገለባለስልጣን መስሪያ ቤቱ ለአመልካቹ የጥበቃ ማረጋገጫ ሠርተፊኬት የሚሰጥ መሆኑን ያሳውቃል።

አነስተኛ ፈጠራው Bicycle that can Work on Both Water and Land/**በውሃ እና በመሬት ላይ የሚሰራ ሳይክል/** ነው፡፡ ይህ ፈጠራ በዉሃ እና በመሬት ላይ የሚሄድ ሳይክል ሆኖ የዉሃ መቅዘፊያ ያለዉ(1) ማንሳፈፊያ ሰሀን(2) የእቃመጫኛ(3)ፔዳል(12) መሪ(5) መቀመጫ(4) ኩሽኔትና ካቴና(10) የተገጠመለት በሞተር ወይም ያለ ሞተር በዉሃና በየብስ ላይ ሊነዳ የሚችል ተንሳፋፊ ሳይክል ነዉ፡፡

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INID CODES: Internationally agreed Numbers for the Identification of Bibliographic Data

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11	**1162**
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22	**24/09/2021 እ.ኤ.አ.**
30	**የማመልከቻ ቀን የቀደምትነት ቀን ነው**
45	**17/09/2024 እ.ኤ.አ.**
51	**A 01N 63/00**(2006.01), **C 12R 1/00**(2006.01)
54	**የቡና ግንድ አድርቅ እና የእጽዋት በሽታ መከላከያ እና የአዘገጃጀት ዘዴ**
72	**ተስፋዬ አለሙ ጠንቀኛ (ዶ/ር),** **አዲስ ከተማ ክፍለ ከተማ ወረዳ 14 የቤት ቁጥር አዲስ - አዲስ አበባ ኢትዮጵያ**
73	**ተስፋዬ አለሙ ጠንቀኛ (ዶ/ር),** **አዲስ ከተማ ክፍለ ከተማ ወረዳ 14 የቤት ቁጥር አዲስ - አዲስ አበባ ኢትዮጵያ**
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57	**ፈጠራው የቡና ግንድ አድርቅ እና የእጽዋት በሽታ መድኃኒትና እና አዘገጃጀት ዘዴ ሲሆን በዋናነት የያዘው በትራይኮደርማ ሎንጊብራክይተም** (Trichoderma longibrachiatum) **በዱቄትና በፈሳሽ መልክ የሚዘጋጅና መድሐኒት ነው፡፡ በትራይኮደርማ ሎንጊብራክይተም** (Trichoderma longibrachiatum)

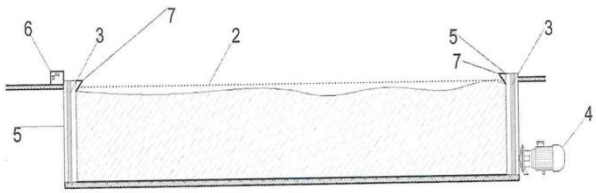
	በዱቄትና በፈሳሽ የተዘጋጀው የቡና ግድ አድርቅ በሽታ (Coffee wilt disease/Fusarium xylarioides) እና ሌሎች የቡናና የተለያዩ የእጽዋት በሽታን (Coffee and plants diseases) የሚቆጣጠርና የሚከላከል ባዮኮንትሮል (Biocontrol /ባዮፈንዳይሳድ (Biofungicide) ሆኖ የተሠራ መድሐኒት ነው፡፡ በዋናነት ባዮኮንትሮል የሆነው በትራይኮደርማ ሎንጊብራክይተም የተዘጋጀውና የሚያድገው ወይም የሚራባው በግብርናና በእንዱስትሪ ተረፈ ምርቶች (Agro-industrial wastes) በደረቅና በፈሳሽ መልኮች ቴክኖሎጂ (Solid state and submerged state fermentations) ነው፡፡ በተለያዩ ርካሽና ጥቅም ላይ በማይውሉት የእህል ዝርያዎች ገለባዎች /ብጣሪዎች/ እና ከመኖሪያ ቤቶች በየቀኑ ከሚጣሉትና ከሚሰበሰቡ ቆሻሻዎች ላይ በማሳደግና በማምረት ነው፡፡ በተለያዩ መጠን ማለትም በአንድ ኪሎ ግራም በአምስት ኪሎ ግራም እና በአስር ኪሎ ግራም ተዘጋጅቶ በተለያዩ የማሰራጫ ዘዴዎች የቡና ግንድ አድርቅ በሽታ (Coffee wilt disease) እና እጽዋት በሽታን (plants diseases) ለመከላከልና ለመቆጣጠር በቡናና ሌሎች እጽዋቶች ላይ በመርጨት ወይም የእጽዋት ዘሮችን በትራይኮደርማ ሎንጊብራክይተም (Trichoderma longibrachiatum) በማሸት መዝራት ይቻላል፡፡

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11	1163	
21	ET/U/2023/004407	
22	11/12/2023 እ.ኤ.አ.	
30	የማመልከቻ ቀን የቀደምትነት ቀን ነው	
45	19/09/2024 እ.ኤ.አ.	
51	E 04C 1/00(2006.01)	
54	ከኮንስትራክሽን መስክ በሚሰበሰብ ተረፈ ምርት የሚዘጋጅ ብሎኬት	
72	ኢንጅነር ዮናስ አያሌው አዲስ አበባ ኢትዮጵያ	
73	የኢትዮጵያ ኮንስትራክሽን ሥራዎች ኮርፖሬሽን, የካ ክፍለ ከተማ፣ ወረዳ 09፣ ጉርድ ሾላ	
74	ዶ/ር አርጋው አሻ ቦሌ ክፍለ ከተማ ወረዳ 17/24	

57	ይህ ፈጠራ በኮንስትራክሽን መስክ ላይ በሚሰበሰብ የጂፕሰም ተረፈ ምርት፣ ከእንጨት ዉጤቶች ምርት በሚገኝ ሰጋቱራ እና ትንሽ መጠን ሲሚንቶን በመጠቀም የሚመረት የብሎኬት ምርት ሲሆን በዋናነት ጀብስም፣ ሳጋቱራነና ስሚንቶን በመጠቀም ብሎኬት ምርት ወጪ የቀነሰ፣ ከዚህ በፊት ይመረት ከነበረዉ ብሎኬት ጋር ሲነፃፀር ክብደቱ የሚቀንስ እና የተሻለ ኮምፕሬሲቭ ጥንካሬ ያልው ብሎኬት የማምረት ዘዴ ነው።

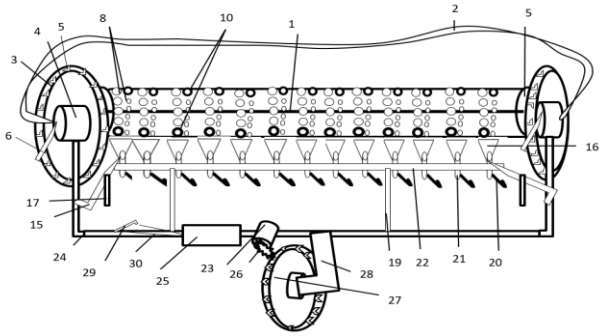
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11	**1164**	
21	**ET/U/2023/004207**	
22	**27/02/2023 እ.ኤ.አ.**	
30	**የማመልከቻ ቀን የቀደምትነት ቀን ነው**	
45	**20/09/2024 እ.ኤ.አ.**	
51	**E 04H 4/00(2006.01)**	
54	**የዋና ደህንነት መጠበቂያ ማሽን**	
72	ቃልኪዳን መሸሻ ግዛው, ንፋስ ስልክ ላፍቶ ክ/ከተማ፣ ወረዳ 04፣ የቤት ቁጥር 1531፣ አዲስ አበባ - ኢትዮጵያ	
73	ቃልኪዳን መሸሻ ግዛው, ንፋስ ስልክ ላፍቶ ክ/ከተማ፣ ወረዳ 04፣ የቤት ቁጥር 1531፣ አዲስ አበባ - ኢትዮጵያ	
74		
57	ይህ የደህንነት መጠበቂያ መሳሪያ በመዋኛ ገንዳዎች ዉስጥ በዉሃዉ ጥልቀት ታችኛ ክፍሌ ሙለ በሙሉ በሁሉም ማእዘኖች/2/ የሚወጠር መረብ ሲሆን የዉሃዉን የታችኛ ክፍል ሙሉ በ ሙለ በመሸፈን ከላይኛዉ የመዋኛ ጠርዝ ላይ ተያይዞ በሚሰሩ ቋሚዎች አማካኝነት ነዉ። በቋሚዎቹ ወስጥ ተላልፈዉ በሚዘረጉ ኬብልች/3/ ታስሮ አገልግሎቱም የመዋኛ ገንዳዉ አገልግሎት በሚሰጥበት ጊዜ ድንገተኛ የሆነ የሰዎች የመስመጥ አደጋ ቢከሰት በፍጥነት በተሰራለት ሞተር/4/ አማካኝነት ከታችኛዉ የዉሃዉ ክፍል መረቡ በየማእዘኑ ላይ /5/ ተወጥሮ በዉሃዉ የላይኛዉ ክፍል ላይ በመንሳፈፍ በመስመጥ አደጋ ላይ ያለ ማንኛዉንም ሰዉ በተገጠመለት መቆጣጠሪያ /6/ ታግዞ ወደ ላይ አንሰፍፎ በማዉጣት ከዉሃዉ ወለል ላይ የሚገኙ የቀሚዎቹ ጠርዝ 777 ላይ በመግጠም በመጨረሻም መረቡ ከዉሃ ሊይ እንዲሰፈፍ በማደረግ በመስመጥ ላይ የነበሩ ሰዎችን በመረቡ ላይ በማንሳፈፍ ከሞት ሊታደግ የሚችል የደህንነት መጠበቂያ እቃ ነዉ።	

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11	**1165**	
21	**ET/U/2023/004177**	

22	**16/01/2023 እ.ኤ.አ.**
30	**የማመልከቻ ቀን የቀደምትነት ቀን ነው**
45	**23/09/2024 እ.ኤ.አ.**
51	A 01C 5/06(2006.01)
54	**የጤፍ መዝሪያ ማሽን**
72	**አበበ ከበደ ሀብተገብርኤል,** **ሐዋሳ ዩንቨርስቲ እና** **ተስፋዬ አበበ አምዴ,** **ሐዋሳ ዩንቨርስቲ**
73	**አበበ ከበደ ሀብተገብርኤል,** **ሐዋሳ ዩንቨርስቲ እና** **ተስፋዬ አበበ አምዴ,** **ሐዋሳ ዩንቨርስቲ**
74	



57	**ይህ የፈጠራ ሥራ ጤፍን በመስመር ለመዝራት የተዘጋጀ ሲሆን በውስጡ የጤፍ ዘር መያዣያ/1/ ጤፉን መጨመሪያ/3/ ተሸከርካሪ ብረት /4/ ጤፉን በመስመር ለመዝራት የሚያገለግል መስመር ማዉጫ/2/ መጎተቻ/9/ አፈር ማልበሻ/7/ አብረው አንዱ ከሌላኛው ጋር ትስስር በመፍጠር የጤፉ ዘር ርቀቱን በጠበቀ ሁኔታ እንደዚሁም በመስመሩ ላይ በማረፍና የጤፉን ዘር አፈር በማልበስ የሚሰራ ማሽን ነው፡፡**

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ETP119B1

(19) የኢትዮጵያ አእምሯዊ ንብረት ባለስልጣን Ethiopian Intellectual Property Authority

(12) **Ethiopian Patent**

(11) **የፓተንት ቁጥር:**
Patent No: ET P118 B1

(45) **ፓተንት የተሰጠበት ቀን: 06/10/2016 EC**
Date of Patent: 13/06/2024 GC

(54) Multi-Functional Supersonic Single-Engine Aircraft

(71) Applicant: **PUBLIC JOINT STOCK COMPANY "UNITED AIRCRAFT CORPORATION" (PJSC "UNITED AIRCRAFT CORPORATION");** bld.1, B. Pionerskaya, Moscow 115054 (RU)

(72) Inventor: **STRELETS Mikhail Yurievich [RU]; BULATOV Aleksey Sergeevich [RU]; NIKITUSHKIN Mikhail Viktorovich [RU]; STEPANOV Vladimir Dmitrievich [RU]; KONONOV Dmitriy Germanovich, [RU]; KRYLOV Leonid Evgenievich [RU]; BARABANOV Aleksandr Vladimirovish [RU];**

(21) Appl. No: **ET/P/2022/656**

(22) Filed: **30/06/2022**

(30) Priority Date: 19/07/2021

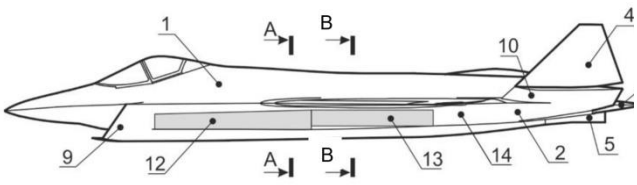
(51) IPC: ***F 02C 7/04(2006.01), B 64C 1/00(2006.01), B 64C 30/00(2006.01), B 64D 33/02(2006.01)***

Examiners: **Bamlaku Bizuneh & Tewodros Nigussie**

(57) Abstract

The invention relates to the aviation field. A multi-functional supersonic single-engine aircraft comprises a fuselage, a tapered wing, panels of all-moving V-shaped vertical empennage, advanced side beams, lower lateral engine air intake located under the fuselage fore section with a duct extending along the aircraft centerline, central and lateral payload bays, a single-engine power plant comprising an engine with a rotatable propulsive nozzle arranged along the aircraft centerline. The aircraft design provides reduced aircraft dimension and lower weight, reduced aerodynamic drag, reduced RCS and radar signature, high aircraft performance and maneuverable characteristics, outstanding stability and controllability characteristics, enlarged payload bays volume, multi-purpose large-sized loads capacity, as well as multi-functional capability of aircraft.

10 Claims and 07 Fingers



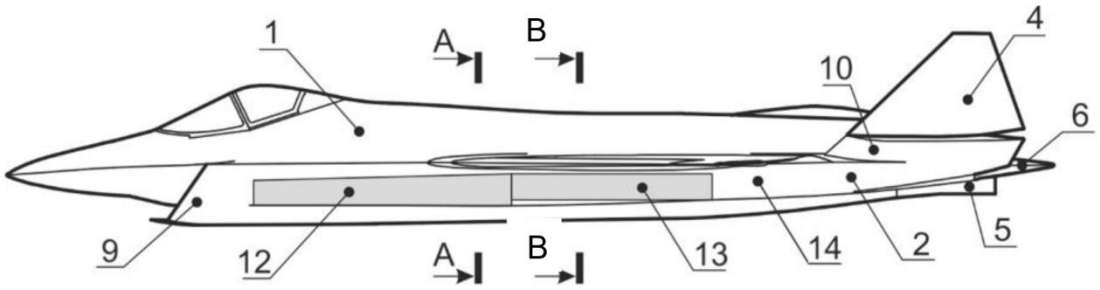


FIG. 1

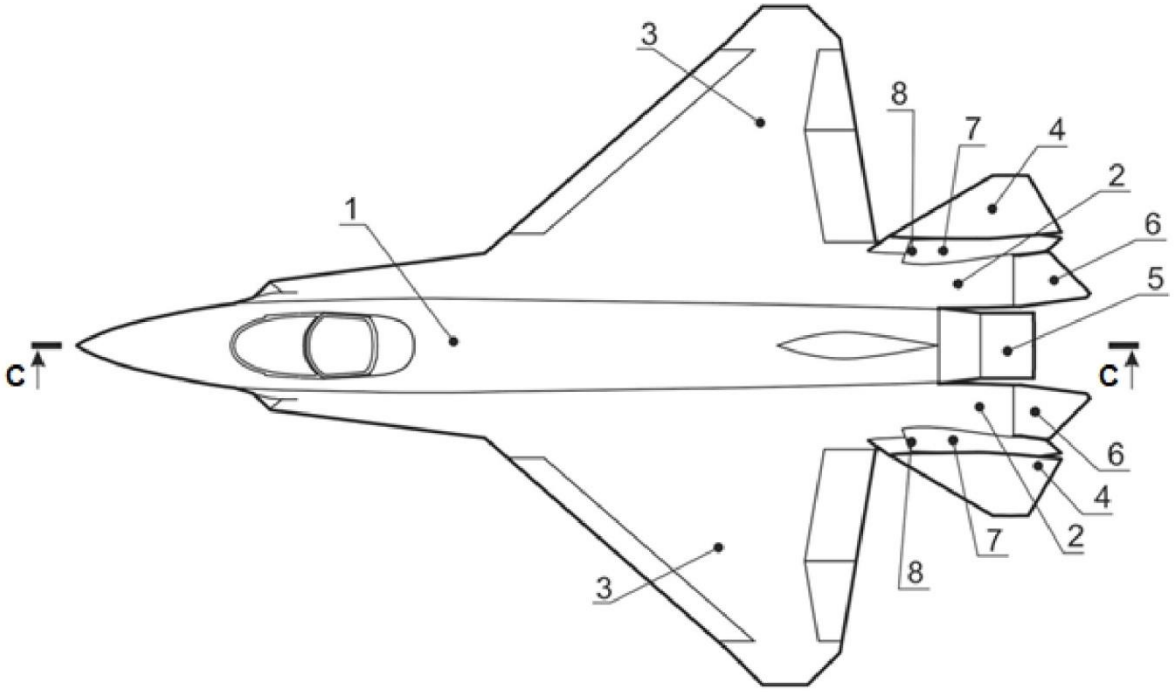


FIG. 2

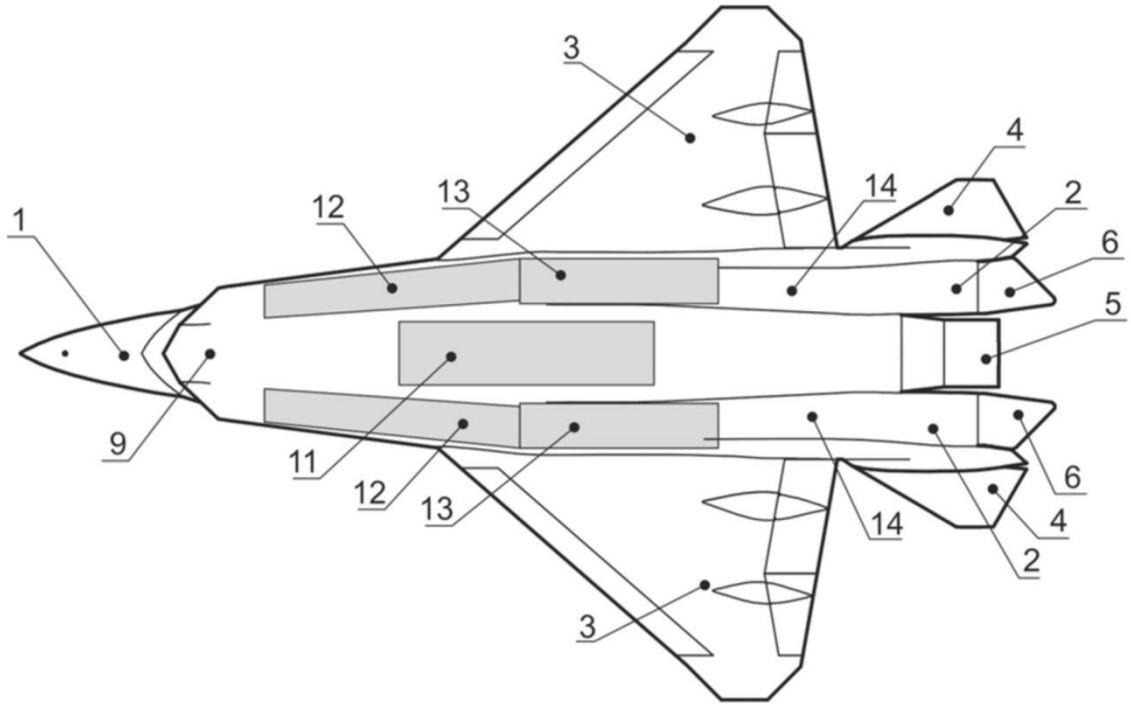


FIG. 3

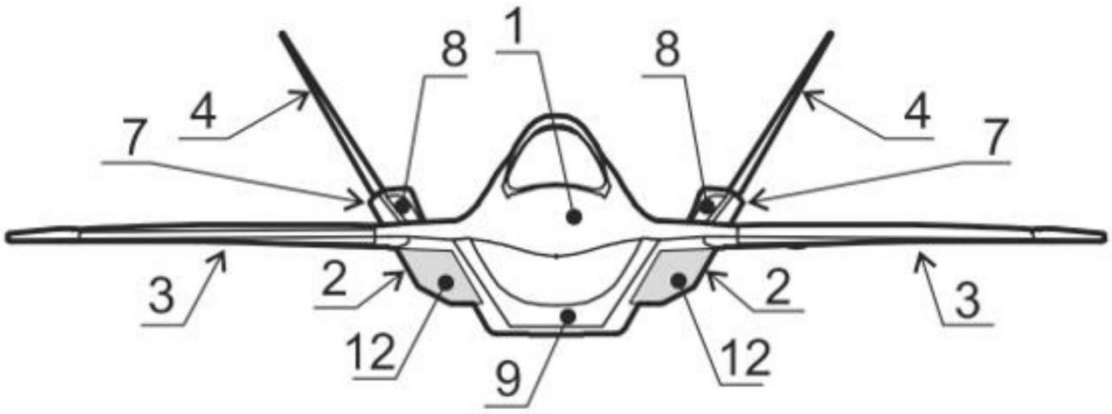


FIG. 4

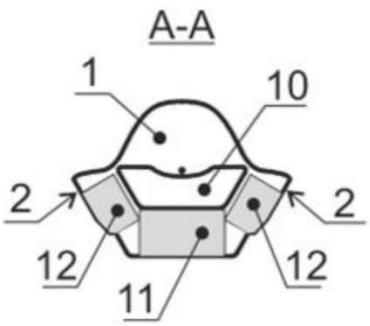


FIG. 5

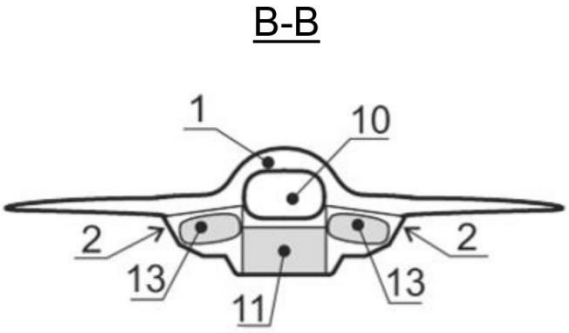


FIG. 6

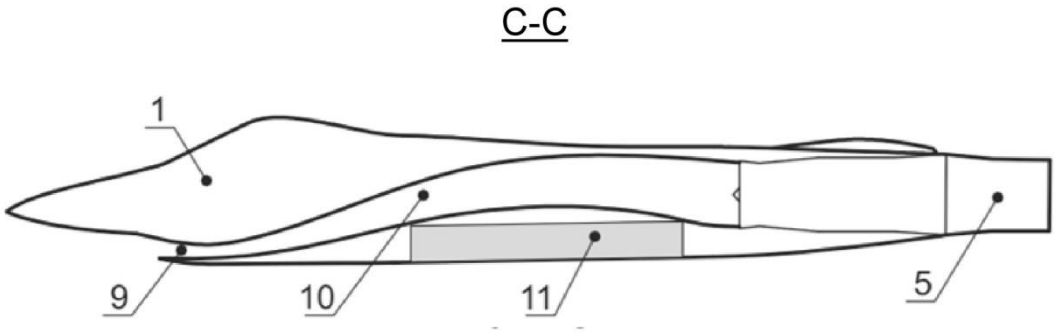


FIG. 7

5

Multi-Functional Supersonic Single-Engine Aircraft

Technical Field

The invention relates to aviation, particularly to low radar signature supersonic aircrafts.

Background

A multi-mode highly maneuverable aircraft with an integrated aerodynamic configuration is known in the state of the art, see patent RU 2400402 C1, published 9/27/2010, IPC B64C 30/00, B64C 1/22. The known aircraft comprises a fuselage having a middle section smoothly passing to outer wing panels and with fore and aft sections of the aircraft; the aircraft also comprises all-moving vertical fins and all-moving horizontal empennage configured to have inphase and differential moving capabilities; the aircraft also comprises a twin-engine power plant, and two main payload bays. The middle section of the fuselage is flattened and the fuselage has an increased width in the cross-section.

Patent RU 2440916 C1 published 1/27/2012, IPC B64D 27/20, B64D 33/02, discloses an aircraft with integrated aerodynamic configuration. The known aircraft comprises a fuselage, a wing, wherein the wing has outboard panels smoothly passing to the fuselage, the aircraft comprises all-moving vertical fins and all-moving horizontal empennage, a twin-engine power plant and payload bays.

Patent RU 2502643 C2 published 12/27/2013, IPC B64D 7/00, B64D 27/16, B64D 33/02, B64D 45/00, B64D 39/04, B64C 1/36, discloses a multi-functional low radar signature aircraft. The aircraft comprises an airframe, a twin-engine power plant and an avionics suite.

Patent RU 2583824 C2 published 5/10/2016, IPC B64D 7/08, B64C 30/00 discloses a supersonic aircraft with internal payload bays. The aircraft comprises fuselage with large longitudinal cutouts in the bottom part, the cutouts configured for tandem-type payload bays.

The aircrafts known from the state of the art have a drawback of large geometric overall dimensions and weight, caused by using two engines. Two main payload bays prevent from carrying large size loads in lateral bays. Furthermore, placing the main payload bay, the lateral payload bays, an air intake ducts and main landing gear wells along one distance increases fuselage mid-section area, which, in combination with large number of aerodynamic control surfaces increasing the aircraft exposed surface area, results in increasing of the aircraft weight and aerodynamical drag. Presence of the all-moving horizontal fin forming, together with the all-moving vertical fin, an acute angle, causes increased radar cross section (RCS) in the side hemisphere, which decrease requires using special coatings. The straight ducts of the power plant air intakes require installation of special devices therein to reduce engine RCS in the forward hemisphere, which also results in increase of the aircraft weight. Placing the heat exchanger air inlets of the aircraft systems and engine nacelle at the front parts of the pylons of the all-moving vertical fin results in the RCS increase in the forward and side hemispheres, which requires special measures for the RCS decrease, which, in turn, causes increase of the aircraft weight.

The object of the invention is to eliminate the above indicated drawbacks of the aircrafts known in the state of the art and to provide a light tactical aircraft having lower geometrical overall dimensions and lower weight, small RCS, and having large payload capacity.

Disclosure of Invention

The technical result of the invention is a reduced overall dimension and lower weight of the aircraft, reduced aircraft aerodynamic drag, reduced RCS and radar signature, high aircraft performance and maneuverable characteristics, better stability and controllability characteristics, enlarged payload bays relative volume, multi-purpose large-sized loads capacity, as well as multi-functional capability of aircraft.

The technical result described above is achieved by an aircraft having a fuselage with a fore section, an aft section and lower side surfaces, a tapered wing having panels with leading edges, panels of an all-moving V-shaped empennage having outer side surfaces, advanced side beams, central and lateral payload bays, a single-engine power plant comprising an engine with a rotatable propulsive (jet) nozzle arranged along the aircraft centerline, a lower lateral engine air intake located under the fuselage fore section and having a duct extending along the aircraft centerline.

The panels of the all-moving V-shaped vertical empennage are mounted on pylons and are deflected from a vertical plane for an increased angle, preferably 12° – 50°; the panels function as both horizontal and vertical empennage.

The duct of the lower lateral engine air intake is bent in a vertical plane and has a variable cross-section shape from a U-type shape up to a round shape.

The central payload bay is located under the lower lateral engine air intake duct.

The aircraft side beams accommodate in series: the lateral payload bays, main landing gear wells, and equipment compartments.

The aircraft side beams have controlled rotatable tail sections with trailing edges, arranged at the tail parts of the side beams, the tail sections functioning as an elevator.

The panels of the all-moving V-shaped vertical empennage are mounted on pylons, the aircraft comprises heat exchangers and engine nacelles with blow through air intakes, and the air intakes are located at the inboard sides of the pylons.

In one embodiment of the invention the leading horizontal edges of the lower lateral engine air intake, the leading edges of the tapered wing panels and trailing edges of the side beams tail sections, are all arranged in parallel.

The lower side surfaces of the fuselage are deflected from a vertical plane for an increased angle, preferably 12° – 50°.

The lower side surfaces of the fuselage and the outer side surfaces of the all-moving V-shaped vertical empennage are deflected from a vertical plane for the same angle.

Brief Description of Drawings

The invention is clarified by the following drawings:

Fig. 1 - aircraft side view

Fig. 2 - aircraft top view

Fig. 3 - aircraft bottom view

Fig. 4 - aircraft front view

Fig. 5 - section A-A

Fig. 6 - section B-B

Fig. 7 - section C-C

The positions at the drawings have the following reference numbers:

1 - fuselage;

2 - side beams;

3 - tapered wing outer panels;

4 – panels of the all-moving V-shaped vertical empennage;

5 – rotatable propulsive nozzle;

6 – moving tail parts of the beam;

7 - pylons;

8 - blow through air intakes of the engine nacelles and heat exchangers;

9 - lower lateral air intake of the engine;

10 - duct of the lower lateral air intake of the engine;

11 - central payload bay;

12 - lateral payload bays;

13 - main landing gear wells;

14 - equipment compartments.

Detailed description

Multi-functional supersonic single-engine aircraft represents a tailless monoplane with a V-shaped fin. The aircraft include a fuselage 1, advanced side beams 2, a tapered wing having outer panels 3 smoothly passing to the fuselage 1, an all-moving V-shaped vertical empennage having panels 4 deflected from the aircraft vertical plane, a single-engine power plant comprising an engine with a rotatable propulsive nozzle 5 arranged in an engine nacelle along the aircraft centerline.

The outer panels 3 of the tapered wing smoothly pass into the fuselage 1 and are provided with high lift systems of the leading and trailing edges including leading edge flaps, elevons and flaperons.

The high lift system of the tapered wing is used for a roll and pitch control, for increasing lift-to-drag ratios and lift force.

The panels 4 of the all-moving V-shaped vertical empennage are mounted on the pylons and are deflected from the vertical plane for an increased angle, preferably 12° – 50°; they function as both horizontal empennage and vertical fins and provide necessary stability and controllability characteristics of the aircraft not having a horizontal empennage.

Therefore, instead of the central movable horizontal empennage, the proposed aircraft is provided with the all-moving empennage that combines the functions of both vertical and horizontal empennage. The all-moving V-shaped fins are used for a longitudinal, lateral and directional control and provides effective longitudinal and lateral control, adjustment and trim in all flight modes.

Furthermore, lack of any horizontal empennage allows to avoid an acute angle between the vertical and horizontal fins, to reduce a number of aircraft edges thus reducing the whole aircraft RCS both in an azimuth plane and the side hemisphere.

The panels 4 of the all-moving V-shaped vertical empennage are mounted at fixed pylons 7, the pylons 7 attached to the side beams 2 of the fuselage 1.

The side beams 2 comprise trailing edge moving parts 6 located at the tail sections of side beams 2. The trailing edge moving parts 6 are used for a longitudinal control of the aircraft, i.e. function as an elevator for control, adjustment and trim in a longitudinal channel.

All present control surfaces, when they tilt simultaneously, can be used to increase aerodynamic drag and as a drag flap.

The blow through air intakes 8 of the heat exchangers and engine nacelles of the aircraft systems are arranged at the inboard sides of the pylons 7. Furthermore, the pylons 7 serve as fairings of hydraulic actuators for all-moving empennage.

Lower lateral air intake 9 of the engine is located under the fuselage fore section under the cockpit. An inlet of the lower lateral air intake 9 of the engine is arranged at the lower and lateral parts of the fuselage 1 fore section.

The duct 10 of the lower lateral engine air intake 9 is bent in a vertical plane and has a variable cross-section shape from a U-type to a round shape. Such arrangement of the duct 10 does not allow direct visibility of the engine guide vanes in the forward hemisphere.

Central payload bay 11 is located under the duct 10 of the lower lateral engine air intake 9. The fore section of the fuselage 1 side beams 2 accommodates lateral payload bays 12. Main landing gear wells 13 are located behind the lateral payload bays 12 in the middle part of the side beams 2. Equipment compartments 14 are arranged in the aft section of side beams 2. The adjustable tail parts 6 of the side beams are located behind the equipment compartments 14.

The proposed aircraft design embodied in a number of interrelated design components and interconnected layout of the parts, namely: using the all-moving V-shaped vertical fins as both vertical and horizontal empennage instead of the all-moving horizontal empennage, locating the lower lateral engine air intake under the fuselage fore section, using the single-engine power plant, and presence of the central and lateral payload bays. All these improvements make it possible to reduce the aircraft weight and geometrical dimensions, decrease aerodynamic drag, RCS and radar signature, as well as to ensure high aircraft performance and maneuverable characteristics, stability and controllability characteristics.

In addition to the above said advantages, using of the lower lateral engine air intake having the duct bent in a vertical plane and having a variable cross-section shape from the U-type up to the round shape, does not allow direct visibility of the engine guide vanes and additionally decreases aircraft RCS in the forward and lateral aspect angles. This improvement also enables to arrange the large-sized central payload bay under the lower lateral air intake and

ensures steady engine operations in all flight modes.

Locating the main landing gear wells behind the lateral payload bays allows to reduce the mid-section area and simultaneously makes it possible to enlarge considerably the volume of the lateral payload bays and carry large-sized loads therein. This allows to reduce the number of the payload bays, while the amount of the carried large-sized loads remains the same in comparison with the known equivalents.

The proposed design and arrangement of the payload bays and wells allows to enlarge their volume as the aircraft dimensions remain small and even has reduced size. The large-sized payload bays make it possible to carry multi-purpose large-sized loads, due to which the aircraft becomes multi-functional.

Arranging the lower lateral air intake horizontal leading edges, the tapered wing outer panels and the trailing edges of side beam adjustable tail parts in parallel allows localizing the peaks of electromagnetic waves reflected from the airframe lift surfaces and thus to reduce the whole level of the aircraft radar signature in an azimuth plane.

The aircraft lower side fuselage surfaces and the outer side surfaces of the all-moving vertical fin are deflected from the aircraft vertical symmetry plane for the same angle (see Fig. 4). Such orientation of the aircraft components contributes to reflection of the electromagnetic waves reaching the airframe components from lateral aspect angles, into the upper and lower hemispheres, thereby reducing the general aircraft RCS level in the lateral hemisphere.

The proposed aircraft design arrangement reduces the radar signature in the forward and side hemispheres.

The proposed multi-functional supersonic single-engine aircraft provides an innovative engineering solution in a volume, weight and structural design configuration being a light tactical aircraft with high key specifications: small dimensions and lower weight, low radar-band signature, outstanding aircraft performance and maneuverable characteristics, due to which it is operational within wide range of flight altitudes and speeds.

Claims

1. A multi-functional supersonic single-engine aircraft having a centerline and comprising the following components:

   A fuselage having a fore section, an aft section, and lower side surfaces,

   A tapered wing having panels with leading edges,

   Panels of an all-moving V-shaped vertical empennage having outer side surfaces,

   Advanced side beams,

   Central and lateral payload bays,

   A single-engine power plant comprising an engine with a rotatable propulsive nozzle, wherein

the rotatable propulsive nozzle is arranged along the aircraft centerline,

a lower lateral engine air intake having leading horizontal edges, wherein the lower lateral engine air intake is located under the fuselage fore section and has a duct extending along the aircraft centerline.

2. The aircraft as claimed in claim 1, wherein the panels of the all-moving V-shaped vertical empennage are mounted on pylons, are deflected from the vertical plane for an increased angle, preferably 12° – 50°, and configured to function as both horizontal and vertical empennage.

3. The aircraft as claimed in claim 1, wherein the duct of the lower lateral engine air intake is bent in a vertical plane and has a variable cross-section shape from a U-type shape up to a round shape.

4. The aircraft as claimed in claim 1, wherein the central payload bay is located under the lower lateral engine air intake duct.

5. The aircraft as claimed in claim 1, wherein the side beams accommodate in series: the lateral payload bays, main landing gear wells, and equipment compartments.

6. The aircraft as claimed in claim 1, wherein the side beams have controlled rotatable tail sections with trailing edges, located at the tail parts of the side beams, the tail sections configured to function as an elevator.

7. The aircraft as claimed in claim 1, wherein the panels of the all-moving V-shaped vertical empennage are mounted on pylons, the aircraft comprises heat exchangers and engine nacelles with blow through air intakes, and the air intakes are located at the inboard sides of the pylons.

8. The aircraft as claimed in claim 6, wherein the leading edges of the lower lateral engine air intake, the leading edges of the tapered wing panels and the trailing edges of the side beams tail sections are all arranged in parallel.

9. The aircraft as claimed in claim 1, wherein the side surfaces of the fuselage lower parts are deflected from the vertical plane for an increased angle, preferably 12° – 50°.

10. The aircraft as claimed in claim 1, wherein the lower side surfaces of the fuselage and the outer side surfaces of the all-moving V-shaped vertical empennage are deflected from the vertical plane for the same angle.

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