

**BEFORE THE CONTROLLER OF PATENT  
PATENT OFFICE, NEW DELHI  
The Patents Act, 1970  
(Section 15)**

In the matter of Patent Application no. 202111049256

Dr. Shiv Darshan Malik, Dr. Ravinder Kumar Sahdev, Dr. Deepak Chhabra, Dr. Sumit Tiwari, Dr. Mahesh Kumar,  
Mr. Ravin  
, Ms. Pinki  
, Mr. Dinesh  
, Dr. Ramesh Kumar Garg, Mrs. Vani Goyal  
, India – Applicant  
Dr. Deepak Chhabra - Applicant

**DECISION**

The Application No. 202111049256 was filed on 28/10/2021 on behalf of the applicants Dr. Shiv Darshan Malik, Dr. Ravinder Kumar Sahdev, Dr. Deepak Chhabra, Dr. Sumit Tiwari, Dr. Mahesh Kumar, Mr. Ravin, Ms. Pinki, Mr. Dinesh, Dr. Ramesh Kumar Garg, Mrs. Vani Goyal, India for an invention having title “Gaucrete: A composite of cow dung, clay and hydrated lime”. FER was issued on 01/12/2021 and subsequently objection was raised by this office. Agent of the applicant filed the reply of FER on 14/01/2022. After re-examination by the Examiner, the case was put-up to the controller. Hearing U/S 14 offered to the agent of the applicant on 29/07/2022 regarding the objections:

Objections:

Invention u/s 2(1)(ja):

1. Features of claims 1-4 lack in inventive step as being obvious over the documents and lack in Inventive step u/s 2(1)(ja) of the Patent Act.

D1: Dorothy Manu, et.al., "Strength and Durability Properties of Cow Dung Stabilised Earth Brick", Civil and Environmental Research [www.iiste.org](http://www.iiste.org) ISSN 2224-5790 (Paper) ISSN 2225-0514 (Online) Vol.3, No.13, 2013;

D2: P. Magudeaswaran, et.al.; "Development of Eco Brick and Concrete with the partially replacement of cow dung", International Journal of Science and Engineering Research (IJOSER), Vol 6 Issue 5 May -2018; 3221 5687, (P) 3221 568X

D1 discloses investigation into the strength and the durability properties of earth brick stabilised with Cow dung. A local earth was stabilised chemically by Cow dung. A better compressive strength at the dry state and after 10 minutes of immersion in water was obtained with cow dung stabilisation at content of 20% by weight of earth. Bricks stabilised with 20% Cow dung contents by weight of earth has a dry and wet compressive strength of 6.64 and 2.27MPa respectively. There is an increased of about 25% in the dry compressive strength of bricks stabilised with 20% cow dung content over that of the plain earth brick without stabiliser The 20% cow dung content resulted in lower migration of water into the brick (i e. lower permeability).

D2 discloses the method of producing traditional bricks from kiln is costly and causes pollution. Cow dung can be used to manufacture bricks which are eco-friendly and much cheaper. Cow dung ash is obtained by drying Cow dung under sun and then burning it. We used 10%, 20% and 30% of Cow dung brick and 10%, 20% and 30% of Cow dung ash in concrete, and obtained maximum strength at 10 % replacement. Approximately, one ton of CO<sub>2</sub>, a greenhouse gas, is delivered into the atmosphere for each ton of cement production. Studies were done in the manufacture of brick and concrete using cow dung. In this project we are trying to study the properties of brick by introducing goat dung and Cow dung ash as a supplementary cementing material in concrete. Hence, it is obvious for a person skilled in the art to learn from the features disclosed in cited documents and attain the alleged invention. Other Requirement(s) 1. Amended claims are unclear. Scope 1. Amended documents are not in accordance with section 57/59 of IPA,1970.

Applicants attended the hearing as on scheduled date and time i.e. on 22/08/2022 and accordingly applicants submitted the submission regarding the objections raised in the hearing notice and then complied the objections raised in the hearing notice. All formal and technical requirements now met.

The application is in order for grant. Hence, Patent is granted.

Granted Claims:

1. An environment-friendly composite comprising purified fresh Cow dung (62%), Kaolinite Clay (33%), and calcium hydroxide lime (5), wherein the composite was mixed and left to settle for 24 hours, then the mixture is poured into the mould of the desired shape which is suitable for casting and the prepared mould is left to dry for 5 to 7 days in temperatures ranging from 40 to 50 degrees Celsius.
2. The environmentally friendly composite as claimed in claim 1 has a thermal conductivity of 0.11 W/mK wherein the traditional bricks and concrete has 0.6-1.0W/mK and 2.25 W/mK respectively.

Dated this 05<sup>th</sup> day of September, 2022

-sd-  
**(Ashfaque Ahmad)**  
**Assistant Controller of Patents & Designs**